

THE AMERICAN MEDICAL MONTHLY.

FEBRUARY, 1855.

PART I.—ESSAYS, MONOGRAPHS, AND CASES.

Remarks on the Pathology and Treatment of Cholera. By D. S. Conant, M. D., Demonstrator of Anatomy in the New York Medical College. (Continued from the Nov. number.)

The subject of cholera has, from its prevalence during the past season, excited considerable interest, and elicited many discussions; and yet but few points have been made (and established) as to the nature and treatment of this fearful malady.

Having had the care of the Mott street Cholera Hospital, and also, by the kindness of the physicians of the Franklin street Hospital, the privilege of visiting that institution, and of assisting in their post mortem examinations, I have had opportunities of observing the disease, during the past epidemic, but rarely enjoyed.

This being the first opportunity I had ever had of witnessing the disease, as an epidemic, my mind was entirely unprejudiced as to its precise nature. I therefore commenced with a determination to ferret out its hiding-place, so far as I was able; or that at any rate I would lose no opportunity of noting down its various manifestations, either previous to or after death. In accordance with this resolution I have endeavored to make careful observation of all the incidents and indications as they have manifested themselves to my understanding.

As the statistical part of my report has already been published,* I have now only to consider the disease as it came under my observation.

The epidemic of 1854, so far as I am able to learn, has been characterized by no new phase, except perhaps a little more than the usual tendency to consecutive cerebral disturbance.

From the manner of the general onset of cholera, and from the circumstances under which it more commonly makes its attack, I am fully persuaded that the influence which originally produces the pathological change in the system, is either some peculiar atmospheric change, or a specific poison floating in the atmosphere, and which is absorbed from it as it is undergoing its chemical changes in the lungs, and then circulated through the system in the blood. Thus the whole system is brought under an influence strictly choleraic.

By this I do not mean to imply, that all who are brought under a choleraic influence must necessarily have an attack of cholera; but would rather believe that there are certain conditions of the system which almost absolutely defy the disease; these constituting perfect health—the regular and uninterrupted performance of all the functions of the animal and psychological economy. Such persons, although they may feel the influence of the poison in a measure, are seldom or never brought within its control.

Whatever this poison is, I think it is evidently perpetuated and increased in proportion to the amount of material it has to work upon in certain districts and localities. Accumulated filth, bad water, and uncleanness, all tend directly to increase the virulence of the disease; not only from the fact that the choleraic poison is thus intensified, but also that the power to resist its influence has been greatly impaired in those who have for a long time previously been subject to their influence.

The diarrhœa, which is usually called premonitory, and by many is considered a part of the disease, I believe to be nothing more than an ordinary diarrhœa, to which all are more or less liable, during those months in which cholera usually prevails. For, in very many instances, it does not exist at all; the patient being stricken down at once by the sudden giving way of the vital force.

* See Nov. (1854) number of the MONTHLY.

Considering, as I do, that the poison is in the atmosphere, it necessarily follows that all are more or less under its influence during the prevalence of an epidemic. But we require some depressing agent to bring the vital powers within the control of that influence, and it matters little what that agent is. Diarrhœa exhausts the vital powers, fear depresses the nerve force, and any powerful emotion renders the system less capable of resisting the influence of the poison; and when once completely under its influence, it is so rapidly exhausted that it is exceedingly hard to again bring the system above the influence of the disease—especially if fear or any other powerful emotion has preceded the attack. Not that an emotion can produce the disease, but only act, so to depress the nerve force for the time, as to render the system more easily overcome by the choleraic influence.

I have the account of a case at hand which so completely illustrates my idea on this point, that I think I cannot do better than give it insertion here.

Bridget H., aged 20, was admitted to the hospital Sept. 13, vomiting and purging rice water, and strongly impressed with the idea that she should die, as her mother and sister had both died after a sickness of only one day; her sister on the morning of the 13th, her mother on the 12th. This girl went down to collapse, but gradually began to convalesce, and on the morning of the 16th felt so well that she thought she could go to her home and see to the house. On her way she met a man who noticed that she did not look well, and asked her if she had been drinking. She answered no; then telling where she had been, where she was going, &c. He foolishly replied to her that she had better get back to the hospital, for if she lived to get back, she would not get out again, as he could see death in her eyes then! She came directly back, was gone from the hospital less than half an hour, went looking quite cheerful and happy, returned looking haggard, her eyes sunken, and she was obliged to creep up the stairs upon her hands and feet. This was at ten in the morning. She had but one passage from her bowels, which was copious, watery and bilious, until four in the afternoon, when she commenced vomiting and purging rice water again, with severe cramps. Again she went

down to the collapsed stage, firmly believing this time that she must die ; and it was not until three the next morning that she began, in spite of herself, to convalesce. Nine days after this she went out entirely well, saying she would like to see the man who could frighten her into cholera again.

I have no doubt but that the first attack, as well as the second, was brought on while under the influence of fear. Her mother had just died, her sister was dying, and she alone remained to take care of them. Fatigued and worn out with care of the dead and dying, exhausted with anxiety and fear from the sudden ravages the disease was making with her nearest friends, no one could be in a condition more readily to yield to the influence of this material poison, which was thus destroying her family.

The questions naturally arise here, how does the material poison produce the disease ; upon what organs does it act ; and what is the pathological state of those organs ?

It is well known that the principal peculiarity of any contagious disease is that it produces a disease similar to itself in the unprotected. But it is a general rule that after a person has been once afflicted with a contagious disease, that person is protected against another attack. It is a peculiarity of miasmatic poison that it produces chills and fever at regular intervals. But *how* a contagious disease produces its like, or *how* the miasma produces its effects, we are unable to say. These are apparently ultimate facts. So with the choleraic poison, we have an effect, without being able to say what the precise nature of the cause is, or precisely how it produces its effect. But I believe its peculiarity consists chiefly in this, that it acts directly upon the sympathetic system of nerves.

Upon no other grounds can we account for the phenomena produced during the onset, progress, and termination of the disease. At the onset of the disease proper, the patient feels a sudden sinking sensation before he vomits or purges to any extent. I believe this sensation is almost universal, and the patients assert that this was the time when they were seized. This I consider to be the time when the material poison has overcome the vital force, and the time also when the function of the sympathetic becomes almost totally paralyzed, so that

no organ depending upon it performs its functions regularly, and those most dependant upon it, least of all. The eyes become sunken, the features pinched, and the skin blue from this onset. The patient becomes heedless in regard to self-preservation, and in regard to the feeling of his friends around him.

In fact all those things which had previously engaged his most earnest sympathies and attention, are now uncared for : and although his mind seems perfectly under his control, and his memory of the past clear and definite, yet he generally manifests not the least anxiety in regard to anything.

If you tell him he may not live, he will arrange matters preparatory to the coming event with as much coolness as though he was about to start on a journey of only two days' duration.

Now this state of things might seem to lead to the conclusion that the centre of emotion, whatever part or parts of the encephalon may constitute it, is the seat of the disease. But it is well understood that the feeling of apprehension or the opposite feeling in disease, depends much on the state of the organic functions, as is well illustrated in dyspepsia on the one hand and phthisis on the other. Here also we believe the feelings of indifference as to the result, depend on the state of the organic functions, and as these are controlled by the great sympathetic system, it indicates a paralysis more or less complete of the same.

Admitting that the function of the ganglionic system of nerves is paralyzed, it seems to me that we can then account for all these phenomena.

The capillaries of the chylo-poietic viscera, which are almost entirely under the control of this system of nerves, lose in a measure their vital properties, and become more like mechanical or artificial vessels for the transmission of blood ; but having lost their tone, are allowed to dilate to almost any extent which the *vis a tergo* may demand.

The blood arriving in these capillaries pours out all that portion of itself which is capable of being transuded through the mucous membrane into the stomach and duodenum.

The watery portion of the blood being thus thrown out, the blood becomes thickened, and circulates with difficulty through the capillaries of other parts of the body dependant upon the

spinal system of nerves for the regular performance of all their functions ; and by diastaltic action, the muscles are induced to contract in order that the blood may be forced on through their capillaries. Hence I do not consider cramps as a necessary part of cholera, but that they are produced rather by the thickened state than the poisoned condition of the blood, and therefore are a consequence rather than a diagnostic sign.

I believe, also, that it is this state, or condition of the blood, which induces a cessation of the action of the kidneys, in connection with the increased action of the intestines, for it is well known that with copious, watery evacuations from the bowels, renal action is entirely incompatible. Hence the urea must inevitably remain in the blood ; and it is a question in my mind, whether the consecutive cerebral disturbance, so often following cholera, is not dependant more upon this peculiar state of the blood than upon any other one thing ; or if it is not uræmia, rather than congestion proper.

The collapsed state of the cutaneous capillaries can easily be accounted for, when we remember that whenever there is an outlet to the general circulation, to this point the circulation tends with increased energy. Here the outlet being into the stomach and duodenum, the circulation is drawn from the external surface, and leaves it cold and clammy, as the insensible perspiration and the moisture in the air are, in a measure, condensed upon, rather than evaporated from the skin. But the excessive moisture of the collapsed stages is, probably, owing to outward transudation.

The *post-mortem* examinations were usually made in from one to six hours after death ; and the pathological appearances were as universally the same as in any class of diseases I have ever had an opportunity of investigating.

For a type of *external appearances*, we have the face contracted, eyes sunken, and pupils slightly dilated, (this is an interesting fact, which will be noticed again, inasmuch as we gave opium freely to almost all our cases,) the skin quite blue, especially upon the hands, face, and scrotum of the male ; hands shrivelled ; rigor-mortis usually well-marked after four or five hours. In some it was exceedingly strong.

Thorax.—The pleura-pulmonalis was almost invariably found

covered with a peculiar slimy substance, somewhat resembling exuded plasma; and I believe this substance has been considered as such, especially by those who think cholera to be an inflammatory disease. But I have considered it merely as a deposit, from the absorption of those fluids natural to the parts.

Post-mortem congestion, at the base of the lung, was usually well marked. Pericardium slightly moistened; in some cases more so than in others, though none are completely dry, as is the case with the peritoneum.

Upon the apex of the heart, and upon the anterior portion of the lungs, are occasionally found small patches, or spangles of injected capillaries, like ecchymosis; but these are by no means constant, either as regards locality or size.

Abdomen.—The peritoneum, especially the visceral portion, is strongly injected throughout its whole extent, except the covering of the stomach and duodenum, which is usually quite pale and anæmiated. It is always dry, not a particle of moisture apparently remaining in its cavity; the parietal portion, except being dry, is, in appearance, normal. The dryness of the peritoneum and pleura I consider to be owing to the absorption of their fluids; not from any tendency to inflammation, for in no case of pure cholera have I seen the least tendency to an inflammatory condition of the parts.

The *spleen*, so far as I was able to understand its condition, whenever found diseased, was so from other causes, rather than cholera. In some it was very large; in one there was a peculiar cartilaginous deposit upon its outer side, about an inch and a half square, and the eighth of an inch thick in the middle, beveled off to sharp edges.

The blood found in the spleen was always quite black and fluid.

The *kidneys* were usually found congested, more as if from mechanical force than from any condition of the organs themselves, to invite congestion. Little spangles of vessels were not unfrequently found covering their cortical portion; but upon cutting through the substance of the organ, and pressing out the blood, everything appeared perfectly normal, except the issuing of a milky fluid from the calices, supposed to be made up of epithelium scales, urea, &c., and this was found in every

instance. The *pancreas* is, without the slightest pathological change in its parts, visible to the naked eye ; it may be a little less moist upon being opened than natural. The *liver* is usually found of normal size ; at any rate, when it is found larger or smaller than natural, I think we may as well consider that this condition really existed previously to the attack of cholera, as that it was produced by the disease. This organ is also very much congested with thick black blood ; and this condition necessarily follows from the anatomical construction of its circulatory system, since the portal vein, which brings the greater proportion of blood to this organ, brings it from the chylipoietic viscera ; hence the blood has already been deprived of its watery portions before entering the organ. The liver is also often found with many lightish spots from one to four inches in diameter, as if affected with fatty degeneration. In fact, in one or two instances these pieces burned quite briskly upon a coal fire. These spots were more often found in those who had been previously addicted to intemperance ; but sometimes in those who had not, so far as we could learn.

The *gall-bladder* was always found full of bile, usually very dark, from the fact, I suppose, that the blood was so black from which it was secreted ; but in two instances of young persons, who were previously much anæmiated, the bile was quite light, like turbid water, resembling bile only in taste, but by no means so bitter as ordinary bile. The cystic and hepatic ducts, together with the ductus communis choledocus, were all full of bile. I have therefore considered the obstruction to the exit of the bile to be merely mechanical, from the contraction of the muscular coat of the duodenum. Of course there cannot be so much bile secreted as is normal, from the fact that the watery portions of the blood are wanting in a great measure to wash out the biliary ducts as fast as they are filled with the other elements of bile.

So in the *kidneys*, the urea may be secreted at first, but the water is wanting to wash out the uriniferous tubes ; and in both instances, of course, the natural function of the organs are interfered with.

The *urinary bladder* was invariably found perfectly contracted down to its smallest capacity, and hard, almost like the

uterus, being no larger than a hen's egg, and containing only a very slight amount of mucus, just enough to moisten the inner surface of the organ.

Now, having disposed of the other organs of the body proper, let us pass to the consideration of the *alimentary canal*, in which is seated the great centre of the choleraic manifestation.

The buccal cavity was slightly moistened with mucous, the pharynx and larynx dry; and there can be little doubt, I think, but that the husky voice and almost inaudible whisper are owing entirely to this condition of the mucous membrane around the vocal chords. The mucous membrane lining the œsophagus has a peculiarly dry, lightish appearance, and the line of demarcation between this and the mucous membrane of the stomach is perfectly distinct, showing the extent of the tessellated epithelium of the œsophagus, and the commencement of the conoidal epithelium of the stomach, which is about three-eighths of an inch below and around its cardiac orifice. The mucous membrane of this organ presented a peculiar parboiled or soaked appearance, and was somewhat softened, as if there had been a general breaking down of its epithelial coat, with here and there patches of congestion; but these were not constant, being found only in those who had been peculiarly healthy and robust previous to the attack of cholera.

The mucous membrane was also flabby, and rolled into large rugæ, apparently by the contraction of the muscular coat, and the whole intestinal canal was contracted down to nearly two-thirds its natural size.

At the pyloric extremity of the stomach the folds of mucous membrane were so large, and the muscular contraction so firm, that it was with difficulty the little finger could be pushed through into the duodenum, the mucous membrane of which has precisely the same appearance as that of the stomach; the *valvulæ conniventes* were very large. From the commencement of the jejunum, the mucous membrane begins to have less of the parboiled appearance, and more congestion even down to the colon. With this latter exception, the mucous membrane of the ilium presented quite a natural appearance. Peyer's patches presented nothing worthy of note; neither did I observe anything abnormal in the follicles of Lieberkuhn or Brunner's glands.

The mucous membrane of the colon was neither softened or parboiled in appearance, but occasionally was found of a clay color, from the contents of the viscera.

The rectum presented nothing worthy of note, unless the patient had suffered from dysenteric complication.

It would appear from the above account of the pathological appearance of the mucous membrane in the alimentary canal, that although it is nowhere perfectly normal, yet the principal part engaged in throwing out the vast quantities of fluid is in the stomach and duodenum.

Generally it will be found, I think, that more rice water is discharged upwards from the stomach than from the rectum. I believe this will be found to be the case invariably when the pyloric extremity of the stomach is so closely contracted as is mentioned above. Should the pylorus remain open, there might be such a thing as that the whole amount should be thrown off per rectum.

We shall have occasion again to compare the condition of the mucous membrane, in the upper and lower part of the alimentary canal, when we come to discuss the subject of treatment, which we propose to do after giving an account of the brain.

Head.—The veins of the scalp are usually filled, also, with dark blood to a moderate extent; but upon removing the calvarium, the meningeal veins are found filled to their utmost capacity. Within and beneath the arachnoid, large quantities of serum were usually found, from one to four or six ounces.

Here, again, as in the stomach and duodenum, where the capillaries are almost entirely under the control of the sympathetic, we find them losing their tonicity, and allowing the serum to be transuded through their walls into the cavities, around which they are distributed.

From a drachm to an ounce of serum was usually found in the ventricles of the brain. In one case, where there was very little fluid in the arachnoid, eight ounces were found in the ventricles. This was the brain of a man, thirty-five years old, a shoemaker by trade, who had seen but one sober day for two weeks, and who was admitted to the hospital in a moribund condition, but perfectly sane and conscious of all that was going on around him, though he lived but a few hours.

All the pathological appearances above mentioned were well marked in this case. The cerebral arachnoid in many instances presented an cedematous appearance, the membrane being of a lightish, opaque color, as if from the exudation of lymph; but upon a more careful examination, it proved to be only cedema in the areolar tissue. The vessels around the base of the brain were filled with blood, more red than that around other parts of the organ. When the blood was allowed to run out upon the table, it rapidly underwent a chemical change, and turned from an almost black to a light, and in some cases, almost white, pink color, resembling very strikingly vermillion, mixed with a large proportion of white lead.

Upon dissecting away the substance of the brain, nothing peculiar presented itself, except that from the *puncta vasculosa*, throughout the *centrum ovale majus*, blood seemed to come up rather more freely than natural; though, perhaps, the fluidity of the blood might account principally for this, yet I think not entirely. Except this, no marked pathological state was found in any portion of the substance of the brain. But upon dissecting out the *pituitary body* at the base of the brain, it was invariably found more or less hardened. In some cases, this organ was so hard, as to be with difficulty crushed between the thumb and finger. Now, the position being proved that this is the great centre of all sympathetic action, I believe cholera is proved to be a disease of the sympathetic system of nerves. In support of the above position, I will here quote from Solly on the Brain, page 432:

"I think it not at all improbable that the reason why these capillaries of the brain thus suddenly and unnaturally neglect to perform their duty, is some defective innervation from the sympathetic nerves, whose office I hold to be the regulation of the coat of the arteries, so as to produce secretions, &c.; and, so far, I can see much probability in the opinion of the Wenzels, that the pituitary gland is in fault in epilepsy, believing, as I do, with Dr. Copland, that this gland is the cerebral ganglion of the nervous system."

Having called the attention of many members of the profession to the condition of this organ in my post-mortem examinations, all were agreed as to this, that it was decidedly harden-

ed ; but I have never been able to satisfy myself as to what produced this peculiar state, only that it was a peculiarity of the disease. And here I am obliged to let this subject rest, for the present at least.

It will be seen in review that the capillaries of the cerebral meninges, and also the capillaries of the mucous membrane of the stomach and duodenum, are those most affected in cholera. And it will be recollected that it is upon these organs, more than any other, save the heart, that our emotions produce their effects. By a powerful emotion, the process of digestion may be suspended, or even the stomach may be made to eject its contents. Hence it may be said, that a person suffering from any severely-painful emotion, may be pre-disposed to an attack of cholera, especially if, at the same time, they be subjected to the choleraic influence when epidemic.

It therefore behooves all who would shun the disease to disregard it as much as possible ; that is, to have no fear of it, and never to dwell upon its consequences ; in a word, to keep the mind at rest, the body clean, and be careful to take such food as is found to keep the functions of the animal economy in the most perfect order—guarding against fatigue and over-exertion ; against sleeping in damp places, and everything which tends to diminish the vital force of the system. Alcohol stimulates for a time, but is followed by a corresponding degree of depression which renders the system exceedingly liable to an attack of this disease. Night-watching, and the Irish custom of “waking the dead,” are also fruitful sources of the malady. When thus produced, the disease usually ran a rapid course, as the patients were generally admitted in such a condition as to render all treatment entirely useless.

The treatment which was found most successful in Mott street Hospital was varied with the various stages of the disease as follows.

When the patient was brought in early with alvine discharge of a bilious nature, the directions were acetat. plumbi. gr. iij., opii, gr. j., every two or three hours, with beef tea and brandy ; mustard to the abdomen, calves of the legs, feet, &c., with hot drinks and perfect rest. If the cramps were severe, the heater was used, which is a bent tin tube, placed over an

alcohol lamp, and reaching up beneath the bed-clothes. This was found a valuable addition in keeping the patient warm.

The acetate of lead and opium were expected to act sufficiently upon the mucous membrane of the stomach to prevent the secretion from going on so rapidly. The beef tea and brandy were to stimulate the system, and raise and sustain it above the influence of the choleraic poison; while the sinapisms acted to divert the current of the circulation from the internal organs.

If the patient was admitted vomiting and purging rice water, recourse was immediately had to hydrarg. sub. mur. gra. iij. opii. gr. ii., creosoti gras. ii., in the form of a pill, given every one, two, or three hours; hot drinks, in small quantities, given often; mustard as before, and perfect rest insisted upon.

The pill was given with a view to its sedative, alterative, and astringent effect upon the mucous membrane of the stomach. But in this stage of the disease stimulants and tonics were found to be of more service, if given by the rectum, from the fact that the mucous membrane of the stomach is in a condition to throw out rather than to absorb. This is evident from another fact, that the tincture of opium may be given, in from one to three drachm doses, into the stomach, without the least manifestation of its presence upon the brain or upon the pupils; while the half of a drachm given by the rectum will act more promptly and decidedly upon both than when given by the stomach even, when the lining membrane is in its natural condition.

Hot drinks were resorted to, on account of having seen cramps produced in the hands and arms from handling ice, in several instances, at the first opening of the hospital; for, though the patients complained of great heat, when the surface, breath, and tongue were all cold, we considered this to be but a misinterpretation of the cause of the sensation; they are really freezing with cold, while they believe they are being burned up with heat. Ice will only alleviate the sensation while it is in contact with the membrane, though thirst is not at all diminished by it; while the use of hot drinks not only alleviates the unpleasant sensation of heat, but at the same time decidedly relieves the terrible thirst. It was perfectly

astonishing what a degree of heat the patient would prefer, never complaining of the heat, except when the drinks were given at a low temperature.

As in fevers, when the skin and mucous membrane are hot and dry, cold drinks prove exceedingly grateful to the patient, and at the same time tend to relieve the morbid condition of the system; so I believe in cholera, when the skin and mucous membrane are cold, *hot* drinks will, while they prove grateful to the patient, be of infinitely more service than cold in the treatment of the malady.

At all events, I became perfectly satisfied of this, that my patients retained medicines better, reacted better, and were better every way, while using hot drinks, than while using cold.

The hospital was visited by a large number of physicians, each one of whom had his own favorite treatment of cholera, many of which I was induced to try with those patients upon whom I had already pronounced an unfavorable prognosis. But I found none which, in my hands, was thought to answer so good a purpose as the course we had already established.

At first, in the stage above considered, we were accustomed to use capsicum, or camphor, instead of creosote. But the creosote was suggested by Dr. J. L. Owen, of the steamship *Star of the West*, who had seen the disease in various parts of the world, and it was found to be a valuable change. Reaction was decidedly more mild; so much so, that we felt quite sure of the recovery of those patients who were admitted previously to the stage of confirmed collapse.

When the patient had entirely ceased vomiting and purging, if the cramps continued, the external applications were resorted to, together with the heater. If the cramps were severe, we used the saturated solution of camphor in chloroform, or chloroform ʒj., camphor ʒij. (and of this mixture, ten drops were given every ten minutes, so long as cramps continued. We tried many other mixtures for this indication, but found none to answer so good a purpose as the one above mentioned.

In this stage we gave for the regular medicine, hydrarg. sub. mur. gra. v., rhei. gra. v., in powder, every three hours, until

six powders had been taken. This was given with the idea of exciting the flow of bile, and of arousing the liver to its work of assisting in the decarbonization of the blood.

When our patients were admitted moribund, very little medicine was resorted to, more than hot drinks, beef tea, brandy, &c., with external applications. Sometimes they would rally for an hour or so, but they invariably died in less than six hours. Many of these, as well as many of those in confirmed collapse, brought homœopathic medicine with them, to let us see what they had been taking. One homœopathic doctor came with his patient, and produced an ounce vial two-thirds full of the most intensely acrid mixture. He assured me he had given the girl a tablespoonful of that mixture every fifteen minutes for an hour and a half, and that it worked like a charm. Still he did not exactly like her looks, and thought she had better be in the hospital. He was surprised when told that she was moribund, and still more surprised, upon coming back to hear how she was, to learn that she died in two and a half hours from her admission. It is a lamentable fact, that the cholera hospitals of this city, during the epidemic of 1854, were used by many who had the care of those suffering with cholera, I might almost say as *dead-houses*, into which they could drive their patients when hope was gone, and behind which they could shield themselves, and thus be protected from the stigma which would otherwise rest upon them; such still boasting that they never lose their patients with cholera oftener than one in a hundred.

In regard to the *pulse* of cholera patients, I believe the prognosis may be founded with more certainty upon its condition than upon any other one symptom taken alone.

It was found almost invariably that if patients, when admitted, had a small, wiry pulse—even if it was no more than seventy per minute—yet the patients would not rally in the least. On the other hand, if the patient was entirely pulseless at the wrist, but it was found that the pulse in the brachial artery was soft and compressible, even though much more frequent than in the previous case, the patient was considered as comparatively safe. Hence the importance of giving the pulse a careful examination in reference to its condition, as well as

its frequency, before making a decided prognosis ; otherwise we shall find ourselves woefully disappointed by having patients in the former condition die, and have the wind taken from our sails, if by any chance patients in the latter condition fall into the hands of empyrics. The pulse was also found to be a very sure criterion in the consecutive stage, the same pulse indicating a favorable or unfavorable termination, as before stated.

This stage, we may, however, remark, never occurred under our observation, except as a sequel of decided collapse ; in it our patients were treated as for uræmia, and the various indications were fulfilled, as they arose, without any fixed and definite treatment.

I have thus given in as few words as possible a history of my labors in the Mott street Hospital during the past epidemic. If from the mode of treatment here laid down, any practitioner shall be enabled to save the life of a single patient, or if a single point has been made and established to the satisfaction of my professional brethren, as to the nature of the disease, I shall feel more than rewarded for the labor incurred.

Life and Writings of Paracelsus : an Introductory Lecture to the Course, on Materia Medica and Therapeutics, at Dartmouth College, delivered October 9, 1854. By ALBERT SMITH, M.D., Professor of Materia Medica and Therapeutics.

THE annals of the past, in the medical profession, are full of interest, as showing the gradual development of principles, that form the basis of many of the existing opinions of our day. The progress of medical science has been slow—it has been the dim vision first, then the misty shadowing of some truth, that has struggled on with new accessions of light, as it emerged from a dark age to a brighter period, till it came forth invested with all the certainty of which it was capable. It is not to the past that we look for truths in our science, but only for the germs of truth. We there see great minds struggling with the superstitious, absurd theories, and the universal ignorance of the age in which they lived. We can truly enter-

tain but little reverence for the opinions of the ancients on medical subjects ; and we are satisfied it would be useless, and worse than useless, to study the old writers for the few grains of wheat that would be found in the almost interminable mass of folly and absurdity.

Even Hippocrates, who wrote so much that has come down to us deserving respect, as the result of his experience, would poorly repay the irksome labor of a perusal of his extensive works if they were to be clothed in the best English dress. We should pause and wonder how a man, whose common sense had put forth so many truths, could have written so much that is puerile and absurd. Galen would seem to be entitled to even less respect than Hippocrates, though more voluminous as a writer.

We need feel no regret that these two ancient writers have never been translated into our language. Such theories and hypotheses as they advanced and maintained to elucidate processes and truths, now made plain by the progress of our art, could not be read with patience. These writings, now, can have no merit, only as matters of curiosity, illustrating how powerful minds were obliged to grope their way when all was darkness around them.

It will not be inappropriate to this occasion to briefly consider the life and character of Paracelsus, whose writings and theories, like those of all his predecessors, are now worthless ; and yet who, in the province of materia medica, rendered an important service to the profession.

He is an interesting character among our predecessors, having exerted a great influence upon the medical world for many ages succeeding his strange career. Even now he stands out prominently the Prince of Quacks, and the model of all foolish, boasting, and absurd pretenders in the healing art.

I shall briefly call your attention to the state of the medical world just preceding the appearance of Paracelsus, as it tends to illustrate the history and career of this extraordinary man.

The progress of medical science has always been slow. A practice which aided greatly to its advancement began to prevail about the 15th century, viz. : the publication of monographs of particular diseases and of individual cases, reports

of hospitals and other institutions. Many of these early collections were crude, made without judgment and much diagnosis or discrimination, consisting often of marvellous stories, from which no practical inferences could be deduced. They led, however, to more accurate observations, to the observance of facts more than mere hypothesis, and proved highly serviceable in the progress of medical science.

The plan was generally adopted in the succeeding age, with a greatly improved method, which has no doubt proved one of the most efficient means by which medical knowledge has so rapidly advanced in modern times.

The progress of Chemistry about this period (the 15th century) exercised a great influence on the advancement of medical science. It had failed in its primary object—that of discovering some substance capable of transmuting the baser metals into gold, called the *philosopher's stone*; yet it imparted a knowledge of the nature and properties of bodies, and of various compounds very useful in the arts of life, and especially in pharmacy. We owe to the Arabian chemists the discovery of the process of distillation, and the art of preparing extracts; they also introduced the use of sugar into pharmacy, instead of honey, in the composition of syrups and conserves; and they seem also to have made some approach to the formation of mineral acids, and to have procured several of the earthy and neutral salts.

The art of Alchemy, practised by the Arabians, was transferred to the different countries of Europe, and pursued with even more superstition and credulity. Among the great men who shone in this age, and were carried away with this delusion, was Roger Bacon; he was classed with the alchemists, inasmuch as he adopted some of their principles and practices; but in the turn of his mind, and in the spirit in which he entered upon his experimental researches, he exhibited a genius which far outstripped the age in which he lived. The *philosopher's stone*, which was the object of so much painful research, beside its property of producing gold, was supposed also to possess the power of curing all diseases, and hence obtained the title of the universal medicine, or "Elixir of Life." These vain and fantastical notions led indirectly to many pharmaceutica

discoveries of the greatest importance ; to this are we indebted for the mercurial preparations, and for the experiments of Basil Valentine on Antimony, which led to their introduction into medicine about the end of the 14th century.

About the beginning of the 15th century a spirit of general improvement began to manifest itself. The arts and sciences gradually revived ; philosophy in all its branches was studied on a more correct plan and with a more enlightened object, and medicine was not slow in partaking of its beneficial influence. One of the first symptoms of this improvement was an increasing relish for the writings of Hippocrates, who had almost entirely been superseded by Galen, and a revival of his method of studying and practising medicine. The taste for complicated theory and refined speculation, so in accordance with the Galenic doctrines, gradually declined, and in the same proportion the value of correct observation and accurate detail of facts began to be estimated.

The circumstance which tended in a considerable degree to shake the authority of Galen, and diminish the veneration in which his opinions had been held for so many ages, was the rise of the sect of the Chemical Physicians. After chemistry had been used with advantage for the purpose of improving the processes of pharmacy, it was applied to the explanation of the phenomena of vitality, and the operation of morbid causes on the living system. The theories of these Chemical Physicians we now regard as altogether false and inapplicable, but they were advanced with so much confidence that they obtained many adherents, and for some time the opinions of the medical world were divided between the rival doctrines of the Galenists and the Chemists.

Among the most noted supporters of the chemical theory was Paracelsus, an individual whose claims to our notice depends more upon his consummate vanity and presumption than his abilities and acquirements.

He marked the age in which he lived. He has come down to us the strangest compound of learning, talent, credulity, bombast, conceit, and utter moral degradation, of all our predecessors. He stands the anti-type of all modern empiricism, the founder of quackery, the first to dignify secret nostrums

with learning and science, to lead the people astray with pretensions all unfounded; and with boasting and braggartism to furnish a model for all succeeding quacks, learned and unlearned. He was no less an example for his worthy followers of our times, in his shameful disregard of all principle and truth. We can hardly call him a great light of his age, except in the same sense in which we should feel disposed to laud that *being*, unceremoniously denominated in Sacred Writ "the father of lies,"—a species of greatness appertaining to each, that no man with honest aspirations would desire to attain.

"Paracelsus * was born in 1493, near Zurich, in Switzerland; and his father, William De Hóhenheim, supposed to have been the natural son of a Grand Master of the Teutonic Order, was a practitioner of medicine in Carinthia in the beginning of the following century. With a view of dignifying himself and his family, his son assumed the name of Phillippus, Aureolus, Theophrastus, Paracelsus, Bombastus de Hohenheim. His father gave him early a turn for his own pursuits, and put him under the care of John Trithemius, abbot of Spanheim, at that time eminent for his knowledge of the *Spagirie* art, as chemistry in its infancy was called.

"He afterwards followed another master of the art, Sigismund Fuggerus, and from both of these he learned many secrets. If any credit is due to his own statements, he received instructions from several other tutors, whom he named; although in one of his treatises he denies having had any instructors at all. He very soon commenced a rambling life; for he says he had examined the principles of the medical art with great attention, and found them defective and erroneous in all points; and therefore he resolved, after having visited the schools of France, Italy, and Germany, to travel in pursuit of medical truth; and not only to search for it among physicians and other learned persons, but among barber-surgeons, monks, conjurors, old women, and quacks of every description. He makes a pompous display of the names of the countries which he thus visited, during a peregrination of several years, and of the important acquisitions in science which he thus collected, with the view of impressing on the world the highest opinion of his superior-

* Rees' Encyclopædia, Art. Paracelsus.

ity, for he seems to have possessed the talents for imposition and successful quackery in an eminent degree. In the course of his travels he had doubtless collected much information concerning metallic chemistry, which, however, he perverted to the vain search of the *philosopher's stone*; and by the bold use of some active medicines, especially mercury and opium, the administration and properties of which were not understood by medical men, he had certainly effected many cures where ordinary medicines had failed; and while these successful cases were blazoned forth with the usual exaggerations, the unsuccessful ones and the mistakes were long passed over in silence.

"To such a height, however, his reputation had been raised in Switzerland, that the magistrates of Basle were induced to engage him, at a large salary, to fill the chair of medicine in their university. In the years 1527-8, he gave lectures daily, sometimes in barbarous Latin, but more frequently in German; and although he at first acquired several enthusiastic adherents, yet the barbarism, vanity, and extravagance of his lectures at length disgusted the students, and he was soon left without an audience. Indeed nothing could exceed the ridiculous pride and bombast with which he assumed the supremacy, the monarchy of medicine, and the contempt which he affected towards all the teachers and universities in the world."

Seated in his professorial chair, at his first lecture he publicly burned the works of Galen, Avicenna, and other standard authors of his time, declaring that "his cap contained more knowledge than all physicians, and that his beard was more learned than all the academies together, and that his hair contained more science than all the philosophers who had ever lived."

"Greeks, Romans, French, Italians, (he exclaims :) you Galen, you Rhazes, you Mesue, you doctors of Paris, you of Montpellier, you of Swabia, you of Misnia, you of Cologne, you of Vienna, and all you throughout the countries that are washed by the Danube and the Rhine, and you who inhabit the islands of the sea—Athenian, Greek, Arab, and Jew—you shall follow and obey me; I am your king; the monarchy of physis is mine!" &c., &c. And he is said to have declared to his audience "that if God would not impart the secrets of physis,

it was not only allowable, but even justifiable, to consult the devil."

"That such an extravagant enthusiast should not long retain his chair might be anticipated. A quarrel with the magistrates of Basle, on account of a decision against him in respect to a demand of fees which was deemed exorbitant, increased his displeasure, and he suddenly quitted that place in 1528. From this time he resided chiefly in Alsacé, and in different parts of Germany, leading a life of extreme intemperance, in the lowest company, being frequently in a state of intoxication for many days and nights in succession. Nevertheless he still maintained his reputation by extraordinary cures, occasionally effected by his powerful remedies, though his failures were equally conspicuous." But the most signal failure of his boasted remedies occurred in his own person. Although he boasted of possessing a *panacea* which was capable of curing all diseases in an instant, and even of prolonging life to an indefinite length, yet this drunkard and prince of empirics died of an attack of a fever after a few hours' illness, in the 48th year of his age, at an inn in Stratzburg, in Bavaria, with a bottle of his immortal Catholicon in his pocket.

This is nearly all that has come down to us of the personal history of Paracelsus—a man, as we have seen, of no principle, yet by the force of his genius and enthusiasm destined to produce a greater revolution in the *materia medica*, and a greater change in medical opinions and practice, than any person who had appeared since the days of Galen.

At the period when Paracelsus appeared, the doctrines of Galen prevailed, and held an absolute dominion over all the learned of the age; so that no one thought of discovering any new truths, or of enlarging the domains of medical knowledge. The learned spent their powers in making commentaries on Galen; they were bound down by this authority with a power from which they could not yet be disenthralled. Never did the iron rule of despotic public opinion bear down the dark ages of the world equal to this. Galen was the sole and entire authority appealed to. Hippocrates was quite put into the shade. Translations, commentaries, and expositions of this

writer were all that could appear in the medical literature of these times.

In the 15th century a revolution in public opinion was impending, "by* which the unbounded veneration for the ancients was to be destroyed, or the attachment to them reduced within its just limits." This was accomplished by the labors of two description of men, totally different in their characters and pursuits, but who incidentally corresponded to bring about the same ultimate effect—the Chemists and Anatomists.* The anatomists, who had clearly demonstrated the monstrous errors and absurdities of Galen, whose anatomy was founded on the dissection of animals, would submit no longer to the rule of ignorance and presumption, but boldly taught the true doctrine amid a world of calumny and abuse. Truth made its way slowly but surely ; and with the revival of letters, the power of Galen over the world grew less and less, and in time was entirely supplanted by the labors of many eminent men who now appeared. The simplicity and genius of Hippocrates came now to be more and more regarded, and the great truths that breathe out in his wonderful works were received and adopted. He was considered one of the most remarkable men that ever lived, whose maxims and precepts have already influenced the world more than twenty-two hundred years, and may, for all we know, influence it twice or thrice that period to come. The revival of medical literature was the delivery from the thralldom of the Galenic doctrine—a freedom to investigate and adopt whatever should be found to be true, without fear of controverting any great existing doctrines. The noble men, who in this department seemed to be tied down to dogmas they knew to be false, triumphantly overthrew the whole structure of the ancient medical doctrines, and put forth their discoveries, founded on the actual dissection of the human subject, from which there was no escape.

It should also be remarked that this age was characterized by a general belief in astrology ; and that even the most gifted, as well as the ignorant, were carried away with the absurd pretences of astrological science. "The belief in the influences of demons, the efficacy of magic, and the powers of witchcraft,

* Edinburgh Encyclopædia, Art. Med.

became very prevalent throughout Europe, and perhaps in no part of it to a greater degree than in England, which acquired the repute of being the country of witches. Even the illustrious Luther was so completely biased by the prejudices of his age, that he ascribed the majority of diseases to the arts of the *devil*, and found great fault with physicians when they attempted to account for them by natural causes. Alchemy had hitherto been cultivated only by the most illiterate men; but the introduction of theosophism and the cabalistic art brought the study into great vogue, and it was henceforth prosecuted with much eagerness by the monks and wandering scholastics (*scholastici vagrantes*), under the patronage of kings and princes, who fondly hoped to augment their revenues by the products of this art. Though a law was passed by Henry IV., condemning as impostors the alchemists, who were very numerous in England, yet they contrived to maintain their ground, and practised so adroitly on the weakness of his successor, Henry VI., that this monarch, finding his treasures exhausted by the unfortunate wars in which he had engaged, granted to certain transmuters of metals the privilege of making gold, and preparing the elixir of life. The labors of Basilus Valentinus, the reputed author of the '*Cursus Antimonii Triumphalis*,' and of Isaac C. Hollandois, were rather more usefully directed; but it was reserved for Paracelsus to appropriate to himself all the knowledge which his predecessors had attained in this branch of learning, and to apply it with success to medicine."*

In contemplating the career of this extraordinary man (says Parist†), it is difficult to say whether disgust or astonishment is the most predominant feeling; his insolence and unparalleled conceit, his insincerity and brutal irregularities, and his habits of immorality and debauchery, are beyond all censure; whilst the important services he has rendered mankind by opposing the bigotry of the schools, and introducing powerful remedies into practice, cannot be recorded without feelings of gratitude and respect; but in whatever estimation Paracelsus may be held, there can be no doubt but that his fame produced a very

* Rees Enc., vol. 23, Art. Med.

† Pharmacologia, p. 59.

considerable influence on the character of the age, by exciting the envy of some, the emulation of others, and the industry of all."

The early education of Paracelsus would appear to have been greatly neglected; and, notwithstanding his asseveration that he had been at German, French, and Italian universities, it is sufficiently evident from his writings that he could never have enjoyed the benefit of proper classical instruction.

The obscure and barbarous style in which his writings are composed has rendered it a matter of great difficulty to give a clear account of his speculative opinions. The indefatigable Hensler, who endeavored to unravel the confusion of his system, and make his writings and theories intelligible, complains that it was the business of several months. Certain, however, it is, that there never was a more glaring example of the error to which chemists have ever been prone—that of carrying into other sciences what Bacon calls, "the smoke and tarnish of the furnace."

"The elements of the living system he fancied to be the same as those of his laboratory; and sulphur, salts, and mercury, were, according to Paracelsus, the constituents of all organized bodies. They were combined by chemical operations, and their relations were governed by an *Archeus*, or demon, who performed the part of alchemist in the stomach, who separated the poisonous from the nutritive part of the food, and who communicated the tincture by which the food became capable of assimilation. This governor in the stomach, this *spiritus vitæ*, this astral body of man, was the immediate cause of all diseases, and the chief agent in their cure; yet each member of the body was supposed to have its peculiar stomach, by which the work of secretion was effected. Diseases were produced by certain influences, of which Paracelsus reckoned five, viz.: *ens astrale*, *ens veneni*, *ens naturâle*, *ens spirituale*, and *ens dei*. When the *archeus* was sick, putrescence was occasioned, and that either *localiter* or *emunctorialiter*. Tartarus, or a certain morbid matter, was the cause of all disorders, exhibiting a viscosity of the fluids, rigidity of the solids, or a concretion of earthy matter, and was believed to be secreted when *archeus* operated in an irregular or too potent a manner, and digestion

was too fully performed. Such speculations, abstractly considered, were no doubt very absurd ; but when divested of the cabalistic jargon in which they have been enveloped, they will be found to contain a certain portion of truth.”*

“The best and most original of Paracelsus’ works is his treatise, in three books, on the venereal disease, in which he has given a minute description of the various forms of syphilis and shown in what manner other disorders were liable to be modified by its presence ; and in which he has successfully exposed the errors, or, as he terms them, “impostures,” of the then prevailing practice. Instead of the inert fumigations, quintessences, and diet drinks, which were in vogue, he recommended mercury as the only remedy on which dependence could be placed, and exhibited it both internally and by the way of friction. Medicine in general was indebted to him for the free introduction of this and other mineral remedies, and of opium, and for pointing out the necessity of attending to chemical actions in pharmaceutical operations. To complex prescriptions, so common in his age, he was no friend ; he ridiculed with considerable effect the absurdity of imagining that forty or fifty simples in a compound would all retain and exert their separate virtues.”

I have thus far presented the most favorable view of the writings of Paracelsus ; many of his other speculations are too absurd to be repeated. It must, however, be confessed that he conferred a substantial benefit on mankind by the introduction of mercury as a cure of syphilis ; and in this point consists his principal merit in respect to medicine.

“For his total ignorance of anatomy and rational physiology, his inability, from a want of literature, to investigate the doctrines of the ancients, which he so boldly impugned, and his employment of a barbarous jargon, as well as his infatuated notions of magic, astrology, necromancy, or geomancy, and all the other branches of mystical impostures, are totally adverse to any claim on his part to the improvement of medical science ; and indeed he appears to have been entirely destitute of clear and methodical views upon any subject.”†

* Ree’s Enc. Art. Med.

† Ree’s Art. Paracelsus.

I will now advert to some of the views of Paracelsus which will not present him in so favorable a light, and give more ground for the many hard epithets which have been heaped upon his character.

He believed that Adam and Eve were not created each with particular organs of generation before the fall, but that sexual peculiarities were a consequence of that untoward event. This is on the authority of the learned Dr. Bayle.* He pretended also to cure wounds by anointing the instrument which inflicted them with a charmed salve.†

But as a climax to all his absurdities—he has handed down a recipe for the production of a human being, or a fairy, as he calls it, from the primitive elements.‡ I have not been able to learn what they were or how combined; but he directs that after they are properly mixed, they should be put into a glass bottle containing fuming manure, and then stopped tight. After a while the impurities become incorporated with the pure essence formed by the combination of the elements, in the proportions proper to our humanity. The being grows, and finally bursts the bottle and comes forth into the world. An Italian doctor gravely adds, in mentioning this experiment, that it is very easily tried, but that the products never grow larger than puppies, and are good for nothing except for pretty playthings!

Old Burton, in his "Anatomy of Melancholy," a book, of which Dr. Johnson said, "that it was the only book which took him from his bed sooner than he wished to rise," has the following on Paracelsus:

* Bayle's General Dictionary, London edition, translated into English, in 10 volumes. Article Paracelsus.

† See Sir Thomas Browne's work, vol. 3d, p. 27, note.

‡ D'Israeli's "Curiosities of Literature;" in the chapter "Dreams at the dawn of philosophy," London edition, 1838, page 479, we find the following: "Paracelsus has revealed to us one of the grandest secrets of nature. When the world began to dispute on the existence of the elementary folk, it was then that he boldly offered to give birth to a fairy, and he has sent down to posterity the recipe. He describes the impurity which is to be translated into such purity, the gross elements of a delicate fairy, which fixed in a phial, placed in fuming dung, will in due time settle into a full grown fairy, bursting through its vitreous prison, on the vivifying principle by which the ancient Egyptians hatched eggs in ovens."

"Paracelsus and his chymistical followers, as so many Promethe, will fetch fire from heaven, will cure all manner of diseases with minerals, accounting them the only kind of physic on the other side. Paracelsus calls Galen, Hippocrates, and all their adherents, infants, idiots, sophisters, &c.

'Apagiris istos qui vulcanias istas metamorphoses sugellant insitiæ soboles, supinæ pertenaciæ alummos.'

'Away with those who scorn these Vulcanian changes, the offspring of ignorance and the nurslings of an indolent pertinacity;' not worthy of the name of physicians for want of these remedies, and brags that by these he can make a man live 160 years, or to the world's end. With their Alexipharmaceums, panaceas, unguentum, armasium, and such magnetical cures, *lampas vitæ et mortis, balneum Dianæ, balsamum, electruæ, magico-physicum, amuleta martialia*, &c., what will not he and his followers effect? He brags, moreover, that he was "primus medicorum," and did more famous cures than all the physicians in Europe besides! A drop of his preparations should go farther than a drachm or ounce of theirs, those loathsome and filthy, fulsome potions, heteroclitical pills, (so he calls them) horse medicines, *ad quorum aspectum Cyclops Polyphemus ex herrescet*."

This is Paracelsus' defence of minerals.

Again, speaking of the differences of theories between the predecessors of Paracelsus and himself and followers, old Burton says:—

"But why do I meddle with this great controversy, which is the subject of many volumes? Let Paracelsus, Quercetan, Crollius, and the brethren of the *rosy crosse* defend themselves as they may. Crato, Erastus, and the Galenists, oppugn Paracelsus! He brags, on the other side, he did more famous cures by this means than all the Galenists in Europe, and calls himself a monarch, Galen and Hippocrates infants, illiterate, &c. As Thessalus of old railed against those ancient Asclepiadean writers, he condemns others—insults, triumphs, overcomes all antiquity (saith Galen, as if he spake to him), declares himself a conqueror, and crowns his own doings. One drop of their chymical preparations shall do more good than all their (Galenists) fulsome potions. Erastus and the rest of the Galenists

vilified them on the other side as *heretics* in physic. Paracelsus did that in physic which Luther did in divinity. A drunken rogue he was, a base fellow, a magician—he had the devil for his master, devils his familiar companions; and what he did, was done by the help of the *devil*. Thus they contend and rail, and many must write books pro and con. Let them agree as they will! I proceed!” Thus far old Burton.

I have now exhibited all the personal history of Paracelsus extant, and such an account of his medical writings and opinions as I could gather from the small amount of them which time has not swept off, as among the worthless things of earth. I have indeed presented a sorry character in the reformer of my branch of medicine. He was a man deficient in all the moral virtues, and yet possessed of talent and genius enough to accomplish a most important and desirable reform in the medical world.

The point in which I view him with the most interest is, as the great antitype of all modern quackery. It is from this source that the arrogant pretensions, bold assumptions, and unhesitating promises of cure all proceed. The lapse of more than three hundred years has brought with it but a little softening of the impudence and braggartism of Paracelsus. It is now, as then, that denunciatory language towards the profession, and gross epithets of ignorance, baseness and cupidity towards its followers, self-exaltation, bold pretension, and the ascription of unheard of powers to their remedies, distinguish modern as it did the ancient quacks. Paracelsus had the folly and temerity to call Galen and Hippocrates infants, illiterate, &c. The whole history of his career shows that he was a man of no principle or integrity—the good that he did the world was not the result of his efforts to benefit mankind, but rather the wish to triumph over the Galenists, and to put down this great overruling sect in medicine. We honor him for the deed, and should respect his memory, did not his extravagance clearly demonstrate that he was only the wilful partisan, now plying, as it were, by accident, at the right oar, with sinister motive. I have already said that Paracelsus lacked classical attainments, and yet it cannot be denied that he possessed a considerable share of genius.

We are not to imagine that empiricism and ignorance always go together. It would be more correct to suppose that empiricism and rascality are always associated. In my experience, no man can meddle with, espouse, defend and recommend any of the forms of empiricism, without really suffering some moral delinquency in his own character. Paracelsus made shipwreck of every moral virtue, and died a poor, miserable, filthy and besotted drunkard. You would as soon look for pearls among swine, as for any of the higher virtues and christian graces among professed quacks. What can we expect of an individual in the daily exercise of nothing but bold assumption, unfounded pretension, and unblushing deceit? A moral, christian character! It would be like bringing together as synonymes *saint* and *devil*, and calling the latter the better character, because of his sagacity and adroitness in making poor mortals do his unhallowed bidding. We see that the very corner stone of empiricism is immorality and dishonesty. It is now just what it was, as exhibited by Paracelsus—he is the great model of all his successors; though he may be more extravagant than some, he was also more honest—yet in his case and theirs, empiricism had thrust out all the christian virtues from the character.

There is one feature in empiricism that has remained the same from Paracelsus down to our times. I mean the favor which new forms of quackery, or old forms put forth with boldness, plausibility, and infinite assumption, meet with among even the intelligent and well informed in society. Even the learned Erasmus appears to have consulted him, having discarded an accomplished physician, whom he greatly extols in his epistles, and gave faith and credence to the doctrines and pretensions of this enthusiast. If modern times, says Sir George Baker, had not furnished similar instances of folly and delusion in the learned and gifted of the earth, this would be a matter of great astonishment. We meet with many Erasmuses of our day, men of learning, of standing, and apparent virtue, giving all their influence to sustain some form or other of empiricism. And there are now, also, many Paracelsuses in the world, men who know that they cannot by any means lead away the people so well as by pretensions they know to be false, and by calumnies too base to be uttered.

It is a dark feature in our profession, that it is so liable to be beset, and often, for a time, borne down, by arts and tricks addressed to the credulity and weakness of the people. It is humiliating to think that even learning, intelligence, and a certain kind of refinement, do often go hand in hand with much of the empiricism of our day. It is not ignorance that affords the greatest field for the dissemination of quackery—but wherever it does prevail, we are always sure to find a want of principle—a want of genuine integrity. It is always safe to calculate that that man or woman who has become a partisan of any of the various forms of quackery, is not quite right in appreciation of truth, or in moral judgment. I say this with the more confidence, because I sincerely believe that we need nothing more than *common sense* to direct us in the true path, to save us from all the devious windings, crooked aberrations, and absurd conclusions of the whole host of medical pretenders. Let us see to it, that we stand firmly on the teachings of science, and implicitly follow the direction of common sense, and we need never be led astray with any pretension, however plausible, or any false doctrines, however captivating in their appearance.

The Wretched Sanitary Condition of the English Army in the Crimea.

The fact has long been well known that during a protracted campaign in a foreign country, more soldiers perish from disease and privation than from the weapons of the enemy; and it is merely a common-sense remark, that a sick soldier is not only useless, but also an incumbrance to the movements and operations of an army. The efficiency of an army also depends very much upon physiological conditions of its individual components, which, to the non-medical observer, may appear of slight importance. No man is so courageous after long fasting as after a satisfactory dinner; though it is true that starvation may make one desperate. In order to fight well, equally as in order to work well in any other capacity, one must *feel* well in

all respects ; if merely chilled, or suffering from a slight degree of physical pain, his energy, either offensive or defensive, is in some degree diminished. For the soldier is human, though engaged in an inhuman occupation ; and like the mechanic, or any other laborer, he must be sustained by proper food and clothing, by sleep, and appropriate seasons of rest. Thus alone can the physical strength required in the struggles of the battle-field be acquired and maintained ; thus alone secured that cheerful state of mind and self-reliance which insures victory over superior force.

We repeat, then, that the greatest possible efficiency of an army can be secured only by securing its health and physical comfort in the greatest possible degree. It is difficult enough ordinarily to make an army *comfortable*, according to our ordinary notions of the meaning of that word, and especially during a prolonged march or a siege. But by prudent arrangements much can be accomplished to prevent or to diminish the privations and discomforts of the soldier's life, and thus to secure to him some degree of comparative comfort at least.

Military hygiene is therefore a subject of the highest importance to an army, and to the nation which employs it. It is also a department of military science whose principles are in many respects already well established. It includes all the means to be adopted for the *prevention of disease* in an army, such as the location of camps, in respect to water, ventilation, &c. ; the kind and amount of food for subsistence ; the proper kind of clothing ; the proper amount of labor and rest, in marching or in camp duty, so far as this can be controlled in the varying circumstances ; and many other particulars not necessary to mention here. Military hygiene is, in fact, the application of the laws of physiology to military life.

But military hygiene respects not merely the human life of an army. The life and health—or the working condition—of the lower animals, employed for draught, or in the cavalry, is a matter of the utmost importance ; and especially is this the case during a foreign campaign, from the great difficulty in supplying losses. Emergencies may arise in which Richard's exclamation,

“ A horse, a horse ! my kingdom for a horse ! ”

hardly exaggerate the value of a single animal of the species. Under this department of the general subject, those of forage, shelter, &c., are included.

Now, in regard to all these subjects, certain principles are well established; and the practical application of which, under all ordinary circumstances, can be foreseen and provided for. We have admitted that all the comforts of a camp at a distance from the enemy, cannot be enjoyed during a siege; and the necessity of a forced march may set at defiance, for the time being, all established rules in this respect. But even the necessary privations of a siege may generally be estimated beforehand, with tolerable accuracy; and much may, and should always be, done to alleviate them.

The location and construction of hospitals is rather a department of military *medicine*, a term not in use, but far better, as expressive of the whole duty of the army medical man than "military surgery." For the army physician does far better service to his country in restoring to health the thousands who are prostrated by fever, and thus again rendering them its efficient defenders, than in amputating the shattered limbs of those mangled, though not quite fatally, in battle. Moreover, his duties as a mere surgeon are mostly associated with the results of a battle only; while his other duties, as a physician merely, are ever weighing upon him, from day to day. It is as a physician, therefore, rather than as a surgeon, that he is so invaluable to an army; and in his double capacity of physician and hygienist, the medical man may sometimes truly become even more valuable than a whole army to his country, as the first of Greek poets regarded him—

"A skilful leech,* prepared our wounds to heal,
Is more than armies to the public weal."

These remarks are suggested by the accounts recently received of the sufferings of the English army in the Crimea; and which clearly result, in a great degree, from a neglect of the well-established principles of military hygiene.

Nor did this neglect commence in the Crimea. During the three inglorious months spent by the allied armies in total inac-

* An obsolete term for physician,

tivity at Scutari, 10,000 men are said to have died of cholera ; and in connection with this fact, we are also told that the camp was situated on low ground, and surrounded by the rankest vegetation, and that the soldiers were allowed to take such vegetables, and in such quantity, as they chose.

But when it was at last decided to drop all "timid counsels," and go to the Crimea, the facts as to the peculiarities of climate, at least, which were there to be encountered, we should have supposed would have been taken into account in the very outset; and that they were not considered, and suitably guarded against, has excited general astonishment. We may be told that the allied armies expected to take Sebastopol at once, and then consult their comfort at their leisure. This indeed may be a reason for the neglect ; but surely it is no excuse for it. It was already past the middle of October when the firing upon Sebastopol* commenced; and at any rate, cold weather must come on, and the almost incessant rains, before the city would probably capitulate. And if the siege *should* be indefinitely prolonged, as has proved to be the case, what would shortly become the sanitary condition of the besiegers, is a question which, we should suppose, would have occurred during the prolonged deliberations at Scutari.

It is accurate enough for present purposes to say that the peninsula of the Crimea lies between the latitudes of 44 deg. and 46½ deg. ; and in respect to its latitude, as well as in its peninsular situation, and its extent of territory, corresponds very nearly with the northern half of the State of Michigan. Sebastopol being at its southern extremity, corresponds very nearly, in respect to latitude, with Portland in Maine, and Toronto in Canada ; being also about 100 miles farther north than Detroit. We are very well aware that localities on the Continent have a higher medium temperature than those of corresponding latitudes on this side of the Atlantic. Still, according to Professor Dove of Berlin, the lowest mean annual temperature at Sebastopol, in January (the coldest month), is

* The allies landed in the Crimea on the 14th of September ; the battle of the Alma was on the 20th ; and the firing upon Sebastopol commenced on the 17th of October. The battle of Inkermann occurred on the 5th of November.

34 deg. 28 min. ;* this being 1 deg. 16 min. colder than in Paris, and 3 deg. 7 min. colder than in London. The Black Sea also, which surrounds the peninsula for three-fourths of its circumference—the other fourth, except the Isthmus of Perekop, being completed by the Sea of Azof—takes its very name from the fact that its waters are darkened by almost incessant storms during the colder portion of the year. The diary for the month of November last shows but *ten fair days* ; while rain fell sometime in the twenty-four hours in *eighteen* of the remaining twenty days, and the remaining two were cloudy. Fogs were also frequent on the mornings of the fair days ; and on the 14th November, four inches of snow fell on the heights in rear of Sebastopol. The 15th was, however, very mild and pleasant. High winds accompanied the rain, and continued often during the fair days.

Here we see a state of weather which, by its changeableness, together with its severity—and the latter alone is not slight for the month of November—demands the utmost precautions in order to protect the health of foreign troops against its influences.

Now all these facts, and others we cannot stay to specify, might have been known in England when the expedition to the Crimea was planned ; and the best apology that can be offered if they were not known by the proper authorities, is, to say they neglected to obtain information on the subject. But if not in England, certainly in Constantinople some one could have been found—not a Turk of course—who could have given some definite account of a locality not so far distant from Constantinople by 100 miles as is Cincinnati from this city.† Indeed we are driven to the conclusion that all this *was* well known, and seasonably known ; and that, as a correspondent of the London Times has remarked of other mismanagement in connection with this expedition, “ every fact which is now known, was known beforehand, and every mishap which is now known to have been capable of prevention was previously and season-

* The mean temperature in this city, in January, is 31 deg.; or 3 deg. 28 min. colder, according to the City Inspector's Report for 1853.

† According to the maps, Sebastopol is less than 500 miles from Constantinople, less than 450 from Varna, and about 75 from Eupatoria.

ably known to be capable of being prevented by appropriate arrangements for that object."

It was not therefore a want of knowledge, but a neglect of administrative duty, which has led to no small part of the sufferings of the English army in the Crimea. It is not necessary for us to inquire who are the parties guilty of this neglect. It is enough to say that, with the name of Guthrie and his comrades in the Peninsular war, so familiar to us, to suppose the British army-surgeons at the present time to be so deficient in either skill or energy, would be to admit a degree of degeneracy which the lapse of only forty years cannot account for. We believe the medical staff of the English army before Sebastopol have done their duty as nobly as the circumstances in which they have been placed by the defective administration of the other departments of the service, rendered possible. Their means have been crippled, and their numbers never sufficiently large; but for neither of these defects have they been themselves responsible. They cannot *procure* provisions for the army, though they may indicate its necessity, and the proper diet. They cannot themselves obtain even medicines and hospital arrangements from home, though they must fail to save the lives of the sick without them.

We may be perhaps here reminded that supplies on their way to the Crimea were lost in the Black Sea by the wreck of the transports containing them; and that among these supplies were 40,000 overcoats for the soldiers. We reply that these garments ought to have arrived in the Crimea several weeks previously, and before the stormy season, therefore, had commenced; in which case, the probability of their having been lost at all would have been greatly diminished. Hundreds had already perished directly or indirectly from exposure to the weather, before these garments would have reached their destination, if they had not been lost. The storm, therefore, accounts for their loss; but there is no excuse, so far as we can see, for the delay in shipping them. Moreover, it has recently been ascertained that these coats were not, in fact, after all, specially adapted to the condition of a Crimean winter, but were merely a part of the ordinary soldier's outfit.

But what has been the actual experience in the meantime of

the soldiers in the Crimea? We will not speak particularly of the hardships incurred in and immediately after the battle of the Alma, and that of Inkermann—the fiercest in the records of modern warfare—but will confine ourselves to the accounts more recently received of the condition of the army before Sebastopol.

From a medical officer's report, dated December 2d, we learn that the snow storm on the 14th November, before alluded to, prostrated the tents and the hospital marquès, and thus directly exposed the patients to the inclemency of the weather. The dysentery had greatly increased during November; since the men had to lie, sometimes, in the trenches *twenty-four hours at a time* in the same position, and that a constrained one—being exposed to heavy dews at night, and often to drenching showers. This duty was, also, almost constantly recurring, without intervals of rest.

Since the storm, and the consequent additional exposures of the sick and the rest of the army, sickness has made a rapid and alarming progress.

The great coats of the men were threadbare and worn out, and the remainder of their apparel in a still worse condition. They had no change of clothing; and when they returned from the trenches to the camp at night, they slept without any covering except one wet blanket—the floor of the tent meanwhile being almost as wet as the ground outside.

And yet we are told by another writer that there was timber enough floating in the bay, for several days, after a violent storm, to have made huts for the whole army!! But it was not secured at the time; and at last it went out to sea again. By this time, probably, timber for that purpose has arrived by ships at Balaklava.

Fuel also could hardly be obtained, even for cooking, except a few green twigs gathered in the ravines. Cooking utensils were also very rare.

And yet the coffee sent to the army was in its *natural state*, i. e. not roasted, and of course not ground. The soldiers, of course, therefore, had these two operations to perform. And in accomplishing this object, they spoiled their mess tins, the tops of which they used for roasting; and also spoiled the

coffee itself, in attempting to grind it between two stones.

The hospitals were not provided with bedding, blankets, proper cooking utensils, or fuel; which state of things necessarily added largely to the amount of mortality. One physician states also that he cannot obtain any laudanum for the sick! "And unless the troops could be soon huddled," the writer continues, "and provided with warm clothing and fuel, the consequences will be most melancholy, and the exertions of the medical officers of little avail."

And yet Constantinople and Varna are within forty-eight hours' sail of Sebastopol!! Why, therefore, were not the warm clothing and the needed utensils promptly obtained, and supplied within a single week to the suffering soldiers?

But another privation to be mentioned also, is the scarcity of provisions. The men were reduced, at the last accounts, to merely half a pound of meat and biscuit a day, without rice; and this because the roads were so bad that provisions could not be brought up from Balaklava, only four or five miles distant from Sebastopol!!

Why was not a passable road *seasonably made*?

Of the small amount of provisions actually brought up, some was carried on the backs of men; and officers are frequently to be seen carrying articles for their own consumption, on foot, and through the mud, from Balaklava to Sebastopol. Soldiers thus employed often fall exhausted by the way; and the poor draught horses were constantly dying in this service; for the latter, as well as the men, were both over-worked and under-fed. As each animal dies, its share of work of course falls upon its survivors. The arabas also were constantly getting broken, the mud being, much of the way, *ten inches deep*. "And yet I cannot hear," says a correspondent there of the London Daily News, "that measures have been taken to get up a fresh supply of draught cattle and waggons from Constantinople, Varna, and Eupatoria." Another writer says the scene on the road to Balaklava almost "defies description. Arabas broken down; mules toiling along and slipping down; others down, and not the least chance of their ever rising again, &c. The horses of the artillery are so dreadfully weather-beaten, that they die

two and three of a night in many divisions ; and those of the cavalry are wretched ghosts of what they were—drawn up in the belly and straight as a match, and standing in mud a foot deep."

And yet we are also told that after the wreck of the transports an immense number of packages of pressed hay floated into the bay and upon the shore. Its compressed state prevented its being saturated with water. This was, however, not secured for several days, and at length it floated out to sea again.

The personal appearance of the soldiers may be gathered from the following somewhat humorous description of a *specimen* : "Think not that a regiment in the Crimea is at all like a regiment at Portsmouth—very far from it. At home, all is neat and clean as a pin ; here, dress is of the roughest kind. Who is this now passing ? Surely he must be some stranger from the wilds of Tartary. No ; he is one of this now-renowned army. Upon his head, instead of a shako, he has placed the comfortable lamb-skin cap of the country, taken from some terrified Crim ; on his back is the cloak of a Russian, not much the better for mud and dirt ; around his legs are skins, or stout rags, as the case may be, tied on with spun-yarn, or a piece of rope picked up from a rubbish-heap ; his shoes, and far above his ankles, are covered with thick mud ; in his mouth is a short clay-pipe, the campaigner's dearest friend ; and he marches along with the air of a hero, with his nod for this comrade, and, a word for that, apparently as contented, if not so clean, as when walking in fullig down the streets of dear old England."

By a letter dated December 4, we learn, that owing to a want of hospital marquès, "five men of the battalion of the Guards were found dead outside of one of the tents, within the last thirty hours ;" and that the mortality among the Turks had assumed "all the dimensions of a plague." It was also added, that a vast number of heavy guns, and an immense quantity of shot, shell, and powder were being landed on the beach—we trust there was also some *laudanum* on board—but with no present prospect of being moved to the place where they were required. The Russians were still constantly mak-

ing sorties by day, and creating alarms by night, so that the English were worn out by constant fatigue and loss of sleep.

The London *Times* of December 28, states that the regiments just arrived from "Gibraltar, Malta, and Corfu, and even the fifty strong, healthy policemen sent from London, sicken and die, where they have to live, to work, to walk, to sit, to eat and drink, and sleep; in wet clothes and wet boots, under wet tents, on the wet ground, in watery trenches, under rainy skies. The human frame was not made for this sort of work; and since the work has doubled, the food been reduced to half-rations, and the tents been blown away, the pest has stalked triumphantly through the army." The whole army eagerly desire to assault the city, if only to "*put an end to their own misery*;" the present being "a state of things which costs us every week as much death and sickness as a pitched battle, without the glory, and still more, without any result." It also adds the opinion, that, were the immediate capture of the place to cost 10,000 men in killed and wounded, three months' longer continuance of the present state of things will cost quite that number, and leave the work still to be done; for though the English nation is the richest, as well as the most ingenious people in the world, "we have really shown no more artifice or skill in the siege of Sebastopol than our ancestors would have done 2,000 years ago."

So far as the hygiene and medical arrangements are concerned, we shall not now be expected to controvert this last opinion.

But we will no longer contemplate this gloomy subject. At last the report reaches us, that the materials for a railroad from Balaklava to Sebastopol are on the way to the Crimea; and a warmer sensation comes over us as we read that orders for clothing have actually been forwarded to Constantinople, and that several thousands of buffalo skins are on their way from Canada. We hope the poor soldiers have, ere now, felt the luxury again of a comfortable suit of clothes.

Nor will we contrast with the English army the French army before Sebastopol. Such a comparison might seem unkind, since, according to the accounts of even English correspondents, the condition of the French army is vastly superior

in all the respects under present consideration. The *Times*, before quoted, says: "The French surpass us in their roads, in their port, in their huts, in their food and clothing, in their hospitals, in everything, and are beginning to look on our helplessness much as we look on that of our barbarous allies." It even accords to the Russians a superiority to the French and English both in everything, except in mere physical strength and courage. In this the English "come off the best." But the Russians are at home.

With a mere glance at the habits and dress of the Russian soldiers, as derived from an English paper, we now conclude.

"It is believed that the Russian soldiers had been liberally supplied with liquor previous to the attack of the 5th November (the battle of Inkermann). Their continued and loud shouting, and the impetuosity of their attack, render it probable that they were under the influence of some artificial stimulant of the sort. In the canteens, also, of many of the killed on the field was found a mixture of raki and water. The men who have fallen into our hands, though generally of short stature, are of sturdy frames, with broad chests and well-developed muscular legs. Their clothing is well made and warm, and though coarse in texture, an amply sufficient protection against the weather. The voluminous folds of their great coats, the sleeves of which are doubled back nearly as far as the elbows, while the skirts descended to the ankles, throw the 'skimping' ordinance great coats issued to our troops completely in the shade as regards comfort and warmth. To prevent the length of the coat inconveniencing the wearer when walking, the skirt all round is made by a very simple contrivance to loop up above the knees. So also the coat can be worn loose, like a cloak, or drawn in at the waist. The men carry with them mittens of thick black cloth, the four fingers being together in one, the thumb in another division of the glove."

In conclusion, we hope we have not spoken too lightly in any respect of the privations of the English army in the Crimea; for, if we mistake not, it is our sympathy with the soldiers, *as men*, which has prompted the preceding remarks. For expressions of sympathy with the Allies as such, or with the Czar, this is not the appropriate channel; nor is it any part of

our office to denounce the authorities through whose negligence the state of things above described has been mainly brought about. It is for Englishmen to express their chagrin, and their indignation also, if moved to do so; and for Lord John Russell in particular, to explain everything away to the nation's satisfaction, if he may. It is our function merely to record the facts and their causes, so far as we may, and to vindicate the medical profession so far as the facts enable us to do so. It is perhaps allowable that we should also express our astonishment; but the facts will, at all events, stand here for reference in future time, should our readers or our Government be in circumstances to profit by such information.

Since writing the preceding pages, we learn that a whole cargo of hard-baked plum puddings was sent from England to the Crimea, in season, it was hoped, for a Christmas dinner for the English troops. As this article of diet never goes amiss with an English stomach, we trust the cargo diffused a general satisfaction on that occasion—*provided always* that it was found practicable to transport the puddings over the last five miles of the distance from England to the troops—from Balaklava to Sebastopol!

E. R. P.

On the Retention of the Placenta within the Vagina. By EDWARD H. PARKER, M. D., Prof. of Physiology and Pathology in the New York Medical College.

The least difficulty which stands in the way of the ready and complete delivery of the fœtus and its appendages is worthy of observation and comment. With this idea I propose to devote a limited space to what I have several times seen magnified into a supposed serious complication of labor.

The placenta, with its attached membranes, being contained as a foreign body within the uterus, is to be expelled, when the fit time arrives, in precisely the same way as any other substance; that is, by the force of the muscular tissue of that organ contracting behind it and driving it out of its mouth. Under ordinary circumstances, almost with this expulsion,

there takes place complete extrusion from the vagina, requiring at most for its aid very moderate traction upon the cord.

Occasionally, however, the process does not go on so completely or rapidly. Not only does the placenta remain, notwithstanding more than moderate traction of the cord is used, but to beginners in midwifery practice it is a complete puzzle how to extract it. It is more especially for this class that the following description of the cause of, and remedy for, this difficulty is given. And if I shall succeed in enabling any young practitioner to avoid the fear and dismay caused by his supposed encounter with a placenta retained in or adherent to the uterus, my purpose will be accomplished. The fact that it has occurred to me several times to be called to relieve the lesser difficulty, when the greater has been supposed to exist, suggests these remarks.

In order that decided and firm retention of the placenta in the vagina should take place, the placenta itself must furnish three conditions, namely, it must be of larger size, full of blood, and the cord must be attached at or near to its centre. Supposing these conditions to exist, the placenta in the majority of cases is expelled from the uterus with the surface which was next the child, in advance. As soon as it had been driven from the uterus by the muscular power of the organ, it comes into the more capacious and distensible vagina, and at once endeavors to assume its natural flatness. Its edges expand beyond the neck of the uterus, and overlap it on all sides, its middle being nearly if not exactly over the os uteri. If in this condition of things the attempt be made, by traction on the cord, to deliver the placenta, it will be found that the origin of the cord, even when most firmly attached, can be pulled off; this requiring perhaps the exercise of a decided amount of strength, and giving pain to the patient sufficient to produce violent outcries. What now is the cause of these phenomena? Undoubtedly the expansion of the placenta in the vagina serves in part to account for the difficulty. This is slight, however, and of itself would not create the whole of it. The position of the cord is a more potent cause, for this is situated in the centre of the placenta, and when traction is made upon it, the placenta thus drawn down by its middle, and distended with blood, presents

in its edges folded together a mass of larger diameter than the fetal head. But the chief cause is that by the expansion of the placenta, immediately after its escape from the uterus; it happens that it is fitted about the neck of the uterus so as to be almost air tight, thus presenting an arrangement which may be best compared to the disk of moist leather with a string attached to its centre which boys amuse themselves with. This being thoroughly pressed down upon a smooth surface, so as to drive out all the air beneath it, cannot be pulled off by means of the string without the exertion of a large amount of force. Atmospheric pressure is the effective cause of the retention of the disk of leather, and of the placenta—each in its place.

The remedy for this state of things is very simple. The finger, following up the cord made slightly tense, should be carried to the edge of the placenta, and then bent so as to pass between it and the uterus. Air will thus enter between the surfaces, and the greatest difficulty, the atmospheric pressure will be removed. A very slight force now will be sufficient to bring down the edge, when the placenta rolls itself up, and the other two difficulties being removed, it readily escapes from the vagina. It will now be evident why the three conditions of the placenta, of which mention was made, are necessary to produce this complication. A small flaccid placenta cannot thus expand while the insertion of the cord upon a side of the disk causes an edge to be lifted when traction is made, and air thus enters behind the placenta.

The conditions with which this is confounded are usually that of *uterine* retention of the placenta—or adherent placenta. The distinguishing features of these need not be dwelt upon, and a mistake can hardly be committed if the examination is conducted with coolness and care. The shape of the uterus, as ascertained by external pressure on the abdomen, together with the os uteri contracting about the cord, should be borne in mind as diagnostic marks distinguishing it from uterine retention. With adherent placenta it can only be confounded by neglect to carry the finger to the edge of the placenta, or by accidentally tearing it at some point, under the supposition that the placenta is being torn from the surface of the uterus.

PART II.—REVIEWS AND BIBLIOGRAPHY.

“Nullius addictus jurare in verba magistri.”

Diseases and Injuries of Seamen, with Remarks on their Enlistment, Naval Hygiene, and Duties of Medical Officers. By G. R. B. HORNER, M. D., Surgeon U. S. N., &c., &c. Phila.: Lippincott, Grambo & Co. 1854. pp. 252.

The contents of this little work include, among other topics, excellent chapters on the duties of medical officers, their enlistment, and the examination of recruits, naval hygiene, diseases of seamen and treatment, injuries of seamen and their treatment. The chapter on hygiene is full of valuable suggestions of a highly practical nature as to the proper construction of vessels for the health of crews, the necessity of ventilation, the uses of a dispensary for patients, its proper locality in the vessel, the frequent use of cold water both purificatory and tonic, and the best methods of preserving provisions. Among the diseases of seamen, Dr. Horner has found abscesses, varying from the smallest boil in intensity to the most aggravated phlegmon, sometimes partaking of a carbuncular character, to be some of the most common complaints to which sailors are liable. Of the cutaneous diseases are mentioned scabies, herpes, impetigo, acne, and urticaria. Between the tropics the miliaria occurred frequently, scarlatina north of them, and variola in every climate. Pemphigus rarely occurred; cases of measles were seen only on one ship. Of scabies every grade was encountered. Scarlatina was seldom met with, and always in the U. S. during the winter, and on the eve of the vessel's departure. Sailors suffer much, as would be expected, from affections of the respiratory organs, notwithstanding the strict examination before admission on ship-board. This comes of their great exposures to all vicissitudes of weather, their almost constant contact with strong, damp currents of air. These diseases generally commence with catarrh, which, unattended to, rapidly passes to the chronic form, and terminates in organic lesions of a serious nature. Dr. Horner has given details of some interesting autopsiæ of patients who died of tubercular disease. Among diseases of the abdomen, those of the digestive organs are most frequent among seamen, though confirmed dyspepsia is much less common than that temporary form induced by excesses. In the treatment of diarrhœa, Dr. Horner

has employed the sulphate of zinc with the most successful results ; united with anodyne enemata to remove the ulceration and inflammation of the rectum, or given by the mouth to act on the upper portions of the bowels and invigorate the whole system by its tonic power. He even prefers sulphate of zinc to the nitrate of silver, and thinks its action on mucous membranes is of a much less irritating character. In the treatment of scurvy, the proverbial affection of seamen, the most efficient treatment consisted of a vegetable diet, pure air, clean beds, moderate exercise, friction with sulphur ointment, vol. liniments, warm pediluvia, lotions, and anodynes, when indicated. Seamen, from their hardy lives, are rarely affected with diseases of the nervous system, save those of a neuralgic character. The injuries of sailors, the most frequent of which are contused wounds of every description, have a liberal share of notice in Dr. Horner's book, and are treated apparently according to the most approved surgical means. Sailors are more subject to hernia than any other class of men save caulkers. Dr. H. treated such cases by confinement in the horizontal position, returning the contents of the sac to the abdominal cavity, and retaining them by the careful apposition of a hard truss, keeping patient on low diet, and frequently relieving the bowels of their contents by gentle purgatives. He asserts that, by such means, he has been able to effect numerous cures of rupture and obviate the necessity of a discharge of the sailors. We can only give a limited *resumé* of the contents of this excellent book. Its author has had a naval practice of twenty-eight years, thirteen of which were spent in our national ships and at various foreign stations. To such ample experience he has added excellent judgment in the choice, arrangement, and treatment of the various subjects introduced. Physicians in naval practice will find it a desirable acquisition to their libraries, and those who have no naval experience, or who are merely thinking of going to sea, will find it a "vade mecum," and well adapted to give them all necessary information. Abating the number of uncorrected errata, the typography and general execution of the book are respectable. Dr. Horner has dedicated his book to Dr. Samuel Jackson, the veteran Professor of the Pennsylvania University.

F. A. S.

The Transactions of the American Medical Association. Vol. VII. 1854. pp. 661.

THIS volume differs from its predecessors in several respects. In the place of its publication, it is from New York instead of Philadelphia ; it is bound instead of being done up like a mammoth pamphlet ; it is issued in some kind of season, though delayed by authors more than it should have been ; and last, though not least, it is not filled with lithographs got up by the Association for individual benefit, and representing various drusy appearances, sketched by the aid of a fertile imagination. That a copy of these Transactions should be sent to a journal out of Philadelphia at least, is, so far as we know, unexampled, though we hope it may be regarded as a precedent for future use.

Looking at the volume as a whole, we see no evidence that a book cannot be printed in New York as well as elsewhere ; and though we wish the committee had taken sufficient liberty with the manuscripts of authors to set their badly-written prescriptions right, we must commend their diligence and success. We can now only add a list of contents, hoping at another day to refer to some of the papers again.

After the minutes is the Vice-President's Address, by Dr. Parsons of Providence, R. I. ; a Report of the Committee on Medical Education, by Dr. Cabell of Virginia, follows. Then Reports on the Epidemics of Kentucky and Tennessee ; on Erysipelas ; on the Cryptogamic Plants of the United States ; on the Epidemics of Ohio, Indiana, and Michigan ; on those of Louisiana, Mississippi, Arkansas, and Texas ; the Prize Essay, by Dr. Brainard ; Report on the Norwalk disaster ; Remarks on Yellow Fever ; Reports of the Committee of Publication ; ditto of the Treasurer ; Catalogues and Indices.

PART III.—PROCEEDINGS OF SOCIETIES.

NEW YORK PATHOLOGICAL SOCIETY.

Dec. 13. *Dr. Sayre* exhibited, for *Dr. Murdock*, a mass of inspissated mucus, of the size of a small filbert, which had threatened suffocation to a child of 14 months, for the relief of which tracheotomy had been performed. The accretion was removed, but the child died in a few hours. On examination (post mortem), both lungs, with the

exception of the middle lobe of the right, presented the appearance of pneumonia in the second stage, probably caused by the congestion dependant on the imperfect aëration of the blood. No foreign body was found in the larynx, trachea or bronchi.

Dr. Finnell exhibited the femoral artery of a man, with the following history. Six weeks before death, a swelling was noticed at the inner portion of the thigh, the pain of which caused him to take his bed at the end of a week. The swelling increasing, the surgeon in attendance made a deep incision into the tumor, but no pus escaped, and the swelling rather increased. There was, however, a good deal of hæmorrhage. In consultation, the swelling was pronounced a malignant fungoid tumor, and amputation was recommended. Consent, however, could not be obtained. The next day the femoral artery was tied, which checked the hæmorrhage, and the size of the limb diminished, until, on the third day afterwards, it was nearly of the natural size. The patient became pale and exhausted, with the pulse at 130 per minute. The sac suppurated freely, and three weeks after the operation the patient died. The autopsy showed the lower third of the femur bare. It was evident that the periostitis of commencing necrosis had caused the pain and the first swelling. The incision had cut a branch of the femoral artery, and the effusion of blood into the cellular tissue caused an increase of swelling.

Dr. Emmet exhibited a remarkably large specimen of calcification on the surface of the pericardium. The patient, *æt.* 19, died at Ward's Island Hospital, of congestion of the lungs. There had not been any interruption of the circulation; the sounds of the heart were very clear, and at the autopsy the valves were found healthy. The liver was fatty and enlarged, weighing eight pounds. The spleen was enlarged, and there were signs of old peritonitis.

Dr. Clark had not seen so extensive a deposit of calcification. These deposits do not occur, except in the substance of the heart, unless as a result of pericarditis. He had seen two instances of the deposit of foreign matter, so called, in the muscular tissue of the heart, but it could not be distinguished in the living patient, so far as he was aware, nor can we tell under what circumstances effused products of inflammation become calcified.

Dr. Metcalfe had seen a patch of calcification on the external surface of the pericardium, $2\frac{1}{2}$ inches long, $1\frac{1}{2}$ wide. There had been pericarditis.

Dr. Enos exhibited a specimen of encephaloid disease of the liver, taken from a woman 67 years of age. The patient had been in com-

parative health, but rather feeble, till about six months previous to her death. She had then some symptoms of indigestion, which were not surprising, as she was nearly toothless. Gradually, however, her symptoms become more aggravated, and not referable to the stomach merely. Pain in the epigastric and hypochondriac regions became more frequent and severe. The liver became enlarged, very tender, and nodulated, which, together with the duration of the disease, led him to infer the existence of malignant disease. During the last month of her illness there was painful and difficult deglutition. Her evacuations were scanty, tarry, and sometimes purulent towards the close of her life. During the last week, her extremities were œdematous, but there was no ascites. The lower extremity of the œsophagus, the cardiac end of the stomach, and the spleen, were involved in the cancerous difficulty, were soft, ulcerated, dark, and easily broken down. The disease was hereditary.

Dr. E. also exhibited a fibrous polypus, taken from a boy æt. 13. It occupied the posterior nares, being attached to the superior turbinated bone of the right side. It was of a pyriform shape, about three inches in length, when first removed, and from an inch and a half to two inches through the fundus. It closely filled both posterior nares, so that it was difficult to introduce a bougie through the nostril on either side. It was strangulated by means of a silver wire and double screw canula. The wire was doubled, and introduced through the nostril in a gum elastic bougie, and brought out of the mouth; the end of the bougie was then cut off, and it was withdrawn, leaving the wire in; the loop was then carried, with the finger around the tumor, as high upon the pedicle as possible. The canula was run into the nostril on the wires, and secured in the usual manner. The screw was tightened from day to day, and on the fifth day the canula and wire came away, leaving the tumor in situ—it being so long that it had to be removed by a tenaculum.

Dr. Markoe exhibited a tibia affected with phagadenic ulcer, of which the following is the history. A man, æt. 32, of healthy appearance, was admitted to the New York Hospital, Sept. 10th, 1854, with a large ulcer on the shin, connected with enlargement of the tibia. It was first caused by an injury twenty years before; a heavy piece of machinery falling upon his leg, inflicting a lacerated and contused wound. It had never healed perfectly. During most of the time it had been a small ulcer, which gave no trouble; but at several periods, from causes not evident, it had enlarged and become

very painful, with prominent granulations, which at times have bled freely. The last of these attacks, under which he is now suffering, commenced about twelve weeks ago. No bone has ever been discharged. He has never had syphilis. The ulcer, on his admission, was on the middle of the front of the leg—the bones above and below being much enlarged. The surface of the ulcer, nearly the size of the palm of the hand, was irregular, prominent, formed by large wart-like granulations, giving issue to a thin, fetid, watery fluid. The probe, on being passed down among the granulations, entered several points half an inch into the substance of the tibia, and encountered rough spiculae, particularly around the margin of the sore, where there seemed to be a border of sharp ulcerated bone. No great tenderness or inflammatory appearance round the sore. Several severe hemorrhages had occurred, and he suffered a great deal of pain. Finding no improvement, Dr. Buck, on the 23d of September, cut down and exposed the tibia, and found that the wart-like granulations did spring from a true ulcer of the bone, which was hypertrophied above and below. By a chisel, the whole ulcerated portion was removed, down to what seemed to be healthy, but hypertrophied tissue. This made an excavation half an inch deep, opening at one point into the medullary cavity. It was dressed lightly, and allowed to granulate. No relief from pain followed the operation. The wound did not assume a healthy action, but produced anew the large, unhealthy, wart-like granulations, bleeding freely from slight causes. Several large pieces of bone came away, and the ulcerative actions seemed to be progressive in the centre of the sore. His general condition was failing, and, at his own request, the limb was amputated just below the knee. His recovery was good. On examination, the specimen shows the lower two-thirds of both bones much hypertrophied. At the point of the ulcer there is a loss of substance of the tibia, equal to one-third of its diameter. The excavation is covered and partly filled up with cauliflower-looking granulations, containing no bone. The bony structure seems irregularly excavated, and worm-eaten. The posterior surface of the bone shows that diseased action was penetrating through the whole structure. It is prominent with irregular nodulated deposits of new bone, and the substance of the tibia looks as if it were infiltrated with the same material as that composing the granulations. The same encephaloid-looking matter appeared to form the substance of the skin granulations, and was in several places infiltrated into the muscles. Examination under the microscope gives equivocal evidence of malignancy.

Dr. Clark inquired if there was any organic disease in which nodulations of any considerable size existed, except cancer? He thinks these characteristic of cancer.

Dr. W. Parker gave the history of two cases of chronic disease of the bladder. The first occurred in the person of a gentleman, *æt.* 57, who for many years, up to February, 1854, had enjoyed average good health: his appetite was good. He complained of pain in the loins and around the *crista ilii*. His urine was normal in quantity, of acid re-action, and presented a slight sediment, though clear. The sediment consisted of blood corpuscles, and epithelial scales, with small masses of albumen. Diuretics and dry cupping to the loins were recommended, after the employment of which the blood disappeared from the urine. Travel was now recommended; and in August the patient returned home improved. He resumed the duties of his profession, but soon became worse, exhibited great anxiety, and lost his sight; which condition continued until near death.

Dr. Buck saw this patient three weeks before his death. He passed his urine frequently, with much pain at the end of the act. There was nervous irritability, but no fever or heat of the skin. The urine, which was sufficient in quantity, was of a turbid, claret hue, in which were small, leech-shaped, black clots. On the side of the vessel was a layer of bright, coagulated blood. There was moderate sensibility above the pubes. Pain was referred to the course of the left ureter; the prostatic portion of the bladder was more resisting than usual. The patient seemed otherwise to be in good health; appetite good, and no anasarca. Styptic remedies to arrest hæmorrhage seemed to be useless until the bladder was injected, with a solution of alum, three or four grains to the ounce of water. This moderated the hæmorrhage; and a few days after, a solution of ten grains to the ounce was injected with no ill effects. The patient soon grew worse. Intense pain was developed about the pubes, and in the region of the bladder. A fortnight before the patient's death, a medical friend of the family saw him, and pronounced the malady cystitis. Leeches were applied; and from this time the patient rapidly declined: he died in two weeks.

Post-mortem examination revealed a tumor above the pubes, extending nearly to the umbilicus. On opening the cavity of the abdomen, the walls of the bladder were found thickened and adherent to the walls of the abdomen. The organ was distended by ten or twelve ounces of old and somewhat bloody urine. In its *bas fond* was a fungoid ulcer five inches in diameter. The ureters were nor-

mal ; the capsule of the left kidney was thickened ; the cortical portion of that kidney was from half a line to one and a half in thickness. The pyramids were small ; the right kidney was enlarged, but not so far advanced in disease. Microscopical examination showed the disease of the bladder to be, unequivocally, cancer.

Dr. Parker's second patient was a gentleman, æt. 62, of regular habits and sanguine temperament ; his health had been uninterruptedly good. In February, 1854, he presented himself, having noticed slight vertigo. He had passed water too often for a year or two previously ; at a previous period, he had passed blood in his water for four months. Six months before the interview, the hæmorrhage from the bladder re-commenced, and continued until death. He soon passed water more frequently, accompanied by much bright blood. Palliative treatment only was employed, and the patient steadily declined.

Examination, *post-mortem*.—Kidneys and ureters threw no light on the symptoms. Above the urethral orifice of the bladder was a pediculated tumor, surrounded by warty growths ; at the fundus was a fungous growth—probably the source of the hæmorrhage—and an irregular patch of vegetation existed two inches from the prostate. On microscopical examination, *Dr. Clark* had been unable to determine with certainty the cancerous nature of the growths, as they seemed to be mostly epithelial.

Dr. Buck had recently seen two cases of hæmorrhage from the bladder much relieved by the injection of a solution of alum ; three or four grains to the ounce of water.

Dr. Peaslee remarked, that it would be very desirable, if possible, to decide as to the precise nature of the two cases under consideration ; and as the microscope had not, he thought, fully decided in respect to the last-mentioned case, it might be allowable to attempt such a decision by reasoning upon general grounds ; for if decided thus, the light afforded by these cases may be of great assistance to us, both in a diagnostic and therapeutic point of view, whenever other similar cases occur. Considering it evident that the first case (the one treated, in part, by *Dr. Buck*) was one of true encephaloid cancer, *Dr. P.* did not think it at all probable that the second was of the same nature ; or at least if so, that element in the case was not sufficiently advanced to produce the prominent symptoms, or demand any special therapeutical interferences. Admitting both to be merely encephaloid, the hæmorrhage in the latter case was out of all proportion to the possible amount of the disease, it being quite as abundant

as in the other case, where a large mass of this disease existed. In other words, we must look for another cause of an equally copious hæmorrhage where the same disease exists, if at all, in a proportionably very small degree ; and that other cause is at once suggested by the presence of the polypoid growth at the neck of the bladder, which Dr. Clark found not to be of malignant character. In favor also of the supposition, that this may have been the principal source of the hæmorrhage, we may cite the well-known effect of even a still smaller polypus in the uterus, in keeping up hæmorrhage. Dr. P., therefore, thought it quite probable that the main symptoms were produced by the polypoid growth ; even the malignant disease, to a slight amount, might also have existed in that case. But if this conclusion be correct, of what diagnostic value are these cases?—and can anything be learned from them for the relief of such cases ? In answer to the first question, Dr. P. stated it as his belief, that if we could have two other cases precisely similar to these, the microscope alone would decide positively that the first *was* a case of encephaloid disease ; for if the peculiar cells were not spontaneously voided in the urine, they might be detached by an instrument introduced into the bladder, and such an exploration would be justifiable in all such cases. On the other hand, the microscope would probably not detect any evidence of cancerous disease, after such an exploration, in the second case ; and if *not*, then for all practical purposes it should be regarded, till further light is obtained, as a case, *not* of malignant character, but a polypoid growth. Excessive hæmorrhage, in the absence of the microscopical signs, would also confirm this idea.

But if the diagnosis may become thus definite, can any thing be done for the essential relief of such cases ? Though this be entirely out of the question in a case like the first, Dr. P. did not think a case like the second entirely beyond relief ; and (in case no malignant disease existed) possibly it might be permanently relieved. The polypoid growth might be removed, with a probability of entirely checking the hæmorrhage, an operation which has not very unfrequently been performed in Paris.

Dr. Clark replied that he did not intend to express any doubt as to the malignant character of *one* of the portions of the second bladder, which he examined microscopically.

Dr. Peaslee thought, however, that little, if any part of the hæmorrhage, could have proceeded from that part, it being of very slight extent, and therefore the treatment should be directed to the other element of the case.

Dr. Buck thought that, though the polypoid growth might be removed, the malignant disease would yet destroy the patient.

Dr. Peaslee thought the arrest of the hæmorrhage would be no small matter, even if there were no other disease; especially since, in the second case, death had apparently been produced by the constant exhausting hæmorrhage—the cancerous affection not having been sufficiently advanced to produce fatal effects; the patient's life might thus be prolonged, at any rate.

Dr. Dalton exhibited a specimen of internal strangulated hernia, for which he was indebted to Dr. H. W. Brown, and from whom he had received a statement of the previous history. The patient, a woman of 78 years of age, had suffered for three days, when seen by Dr. Brown, with all the symptoms of strangulated hernia, except stercoraceous vomiting, which was absent throughout. There was intense paroxysmal pain in the abdomen, with excessive tenderness, both more noticeable on the right side, as also was, in a less degree, the distension of the belly, which was very great; there was obstinate constipation. In the right groin a tumor was found nearly the size of a pullet's egg, movable at its lower portion, free from tension, and which felt like omentum. Dr. Brown then performed the operation for strangulated hernia, with the advice and assistance of Drs. Buck, Watts, and Van Roth. On opening the hernial sac, a small quantity of glairy fluid escaped, but no intestine could be seen nor felt, nor even, after the incision was prolonged up to the internal ring, could the finger be passed into the abdominal cavity. The hernial sac was evidently an old one, whose neck had become obliterated by the adhesive inflammation excited by the truss at some former period when the intestines had been reduced, leaving the sac *in situ*.

As no indication for further proceedings existed, the wound was closed. Death ensued in twenty-four hours, and the autopsy revealed recent general peritonitis, with abundant evidences of a former attack. An internal strangulation of the small intestine was found, which Dr. Dalton showed to the Society. The strangulation was effected by a firm, round cord of adventitious membrane, evidently an old adhesion, extending from the free edge of the ilium, encircling the neck of the strangulated portion, and attached by its opposite extremity to a part of the mesentery in which were two calcareous concretions apparently phlebolites. The strangulated portion was about eighteen inches in length, was deeply congested, and its folds adherent to each other by soft, recent exudation.

Dr. Dalton also exhibited a specimen of *filaria gracilis*, which he

had found recently in the posterior cavity of the peritoneum of a monkey. The parasite was lying perfectly free between the peritoneal layers of the great omentum. It was a female, $8\frac{1}{2}$ inches long, and $\frac{1}{100}$ of an inch in thickness; it had one external, cutaneous investment $\frac{1}{3000}$ of an inch thick, and finely striated transversely; a layer of sub-cutaneous longitudinal, unstriped muscular fibres, a straight intestine, and a double spirally-wound oviduct.

Dr. D. also showed a specimen of cataract from the dog. In this case, both eyes were equally affected. The opacity was confined to the external layers of the crystalline, and disposed in irregular streaks, like the veins in variegated marble. The microscope showed it to be owing to a deposit of a fatty granules and globules between the fibres of the lens.

Dr. Weber exhibited a tumor extirpated by him. It was a distinct specimen of medullary sarcoma.

December 27th Dr. Clark presented a specimen of blood from a patient who died of gangrene of the feet, nose, fingers, &c. The coloring matter seemed diffused through the whole mass, and not confined to the red corpuscles, which were very few and small; the lymph corpuscles were also few, but large. The following is the history of the case:

Louisa White, æt. 28 years, was admitted about three weeks since with a sore mouth, which she attributed to some pills administered by a physician. She also complained of great tenderness of the feet, which were blue and cold for about three inches above the ankle; her nose and fingers on the left hand were in the same condition. Afterwards the other hand and the ears became affected; and still later, the other parts. She died December 13th. *Post-mortem* examination showed all the organs healthy. The ilio-femoral, radial, tibial, and brachial arteries were examined, and found pervious and healthy.

Dr. Clark also presented a specimen of cancer of the cardia, of interest from the form of the growth, obstructing the passage of food, &c.

Dr. Peaslee thought this case very interesting from its completeness, and the satisfactory manner in which the *post-mortem* appearances explained the *præ-mortem* symptoms. Some of the latter, however, reminded him of a case of his, in which malignant disease was entirely out of the question. The patient was a medical pupil, 26 years of age, and perfectly well in every other respect, who, for three or four years previous, could not pass any solid food into his stomach

by ordinary acts of deglutition. It would apparently accumulate in the œsophagus, till six or eight ounces had thus been collected, when a sensation of great tension and distress would at once occur, and which would be promptly followed by the ejection of the food, unless large quantities of water (two or three tumbler-fulls) were swallowed with the utmost rapidity. In this way the food would be carried at once into the stomach, and instantaneous relief afforded. The difficulty had not increased, at the time alluded to, for the last two years, nor in the least respect about four years subsequent to that time. He is now a foreign missionary. Dr. Peaslee had supposed there must have been a dilatation of the œsophagus, which might have been produced by some valvular development of the cardia, though certainly not from malignant disease.

Dr. Willard Parker inquired if the œsophageal bougie had been used by way of exploration.

Dr. Peaslee said it had been by others before he saw the case, but without detecting any dilatation.

Dr. Parker asked if pouches in the œsophagus were common on record.

Dr. Peaslee said his attention was directed to that question at the time, but he could not find any case of the kind.

Dr. Post had seen a case of disease of the œsophagus, which was thought to be malignant, but which proved to be chronic abscess, as it afterwards burst and discharged itself, having existed some months.

Dr. Clark remarked that the difference between his and Dr. Peaslee's case was, the former was cachectic, the latter was generally healthy.

Dr. C. then exhibited a lung in which gangrene had taken place. The disease had gone on and successfully passed the crisis, when the patient died suddenly from pulmonary hæmorrhage. A large cavity was found in the lung, lined by a pyogenic membrane. Dr. C. remarked that they were able to assert the precise time the membrane was formed and commenced secreting pus. Dr. C. also presented a specimen of tubercular peritoneum without comment.

Dr. Batchelder asked how large a proportion of those affected with gangrene of the lung recovered.

Dr. Clark thought from one half to two in five.

Dr. Batchelder thought one half, and gave an account of a patient he had some thirty years since, somewhat similar to Dr. Clark's, his patient also died from pulmonary hæmorrhage.

Dr. C. thought in his case the gangrene was not preceded by in-

inflammation of the lung ; he also felt quite sure that this was never the case, but rather that the gangrene was the exciting cause of the accompanying pneumonia.

Dr. Parker thought this was contrary to the generally-received opinion.

Dr. Clark did not feel satisfied as to the reasons. He himself, with *Dr. Swett*, had investigated this subject, and found the result, as did *Dr. Carswell*, as he had just stated. *Dr. C.* remarked that there were other tissues which never became gangrenous in consequence of inflammation.

Dr. Batchelder also thought *Dr. C.*'s opinion correct, and that the inflammation was an effort at reparation. *Dr. C.* thought the inflammation the result of irritation.

Dr. Peaslee would receive the proposition, that inflammation of the lung never produces gangrene of its substance, with much hesitation ; certainly analogy pointed in the opposite direction. Inflammation is admitted to produce gangrene of areolar tissue and of the brain ; and he could perceive no impossibility, or improbability, in the idea that it might also produce similar effects and consequent sloughing in other parts or organs, well supplied with blood. Moreover, he had seen a case, within the past month, of gangrene of the lung, in which all the usual signs of pneumonia had been present for two and a half weeks, as nearly as he could judge from the facts of the case, as detailed at the consultation visit, before any signs of gangrene manifested themselves. He had also arrived at a similar conclusion in another instance, though aware of *Dr. Carswell's* opinion on that subject. Though he therefore believed that gangrene of the lung is very often, and perhaps generally produced by other causes than inflammation, he could not accede to the proposition that inflammation of the lung never produces it.

Dr. Clark thinks there is no disputing the position, that serous membrane never mortifies as a direct consequence of inflammation. On the other hand, if the cerebral substance becomes inflamed, gangrene, or softening, is very apt to follow, next to the cerebral substance ; gangrene is apt to follow inflammation in the areolar tissue. The next tissue in order is the mucous membrane and the skin, when the tissues beneath are dead, but not often otherwise. *Dr. C.* thinks the membrane lining the air-vesicles is more nearly allied to serous than to mucous membrane.

Dr. Peaslee still thinks the analogy holds good.

Dr. Clark remarked that analogies are good for nothing in a case

like this, unless closely analyzed ; and that the case spoken of by Dr. P. is too vague to be of any practical value, inasmuch as Dr. P. had not seen the case previous to the consultation.

Dr. Peaslee replied that in one sense he entirely agreed with Dr. Clark as to the value of analogies in respect to the proposition under discussion ; in another, however, he entirely disagreed with him. Of course, no such proposition can be established by analogies alone ; nothing but observation can establish any similar positive statement. But analogies may be of great value in the way of putting us on our guard against too readily adopting any such exclusive proposition, and may even be allowed to throw doubt upon it, if they all point the other way ; and it was on both these accounts that he had suggested them. In regard to the vagueness of the case to which he (Dr. P.) had alluded, he would say, that he had not intended to give an account to the Society otherwise than vague ; he only alluded cursorily to it, as a case inducing him to doubt the correctness of the proposition, that inflammation never produced gangrene of the lung.

Dr. Parker thinks it comes to this, if we have a carbuncle in the lung, the dead matter must be got rid of, must be thrown off, &c.

Dr. Clark further remarked, that the branches of the pulmonary artery, anastomose in the lung only with the returning vessels ; hence, if a trunk going to any given amount of the lung is obstructed, that portion of the lung must die.

Dr. Peaslee replied that unless we assume also that inflammation cannot obstruct the minute vessels in the lung, as it is proved is done elsewhere, he should consider that the very peculiarity of the circulation just alluded to by Dr. Clark would render the lungs even the more liable to gangrene as an effect of inflammation ; for if the latter should chance to obstruct a single terminal artery entering a lobule, the whole lobule must necessarily die, and so in proportion to the size of the vessel occluded.

Dr. Clark thinks that the inflammation can affect only the capillaries ; while, in his case, Dr. C. found obstruction in the trunks going to the part by stricture, or obliteration of the vessels.

Dr. Parker presented a testicle taken that day from a man 36 years of age (the history of the case to be presented at the next meeting) ; Dr. P. only wishing to present the specimen in a fresh condition for examination by the Society.

Dr. Weber presented some bones as specimens of the intire osseous system of a female who died in Amsterdam.

Dr. Clark thinks this the most extensive case of carcinoma ever

presented to the Society ; also as confirming the opinion of Markoe upon a case presented to the Society some two years since of a mammary cancer, which seemed to retrograde, leaving the breast, finally, very hard, but afterward manifesting itself in the peritoneum.

Dr. Post remarked upon the large number of foci in *Dr. W.*'s case, without any great centre.

Dr. Parker mentioned the case of a female who resided on Staten Island, whose breast had been diseased, and remained hard for thirty years, and who, finally, died with cancer of the uterus.

Dr. Weber also presented an amputated leg, the details of which were given by *Dr. Parker*, who had seen the case a few days previous in consultation. *Dr. P.* found that the patient had been troubled with pain in the foot since last August ; that he had also been troubled with a small tumor in the popliteal space. This tumor had been poulticed for a considerable time by the then attending physician, who, under the impression that it was an abscess, had finally laid it open, but was disappointed in finding nothing but blood. *Dr. P.* could not detect pulsation, and felt inclined to look upon it as a malignant growth, and, with this impression, advised amputation. *Dr. Weber* saw the case the next day, and, after consultation with *Dr. P.*, amputated at the lower third of the thigh. Upon dissecting the tumor, it proved to be an aneurism of the popliteal artery. *Dr. W.* remarked that the bone was somewhat diseased also, and that the operation was justifiable. *Dr. W.* further remarked that the patient had been troubled with stiffness in the knee-joint nearly a year, with œdema of the lower extremity ; but only for the past three weeks had the tumor increased rapidly. *Dr. W.* considered this rapid increase owing to rupture of the aneurismal sac.

Dr. O'Rourke presented a specimen of cancer of the pancreas taken from a young man, æt. 24, who had always been perfectly well until last spring ; the tumor was mostly situated upon the left side. *Dr. Metcalfe* saw the patient in July, but felt quite uncertain as to the nature of the disease. A *Dr. —* saw him in September, and thought he could cure him. He first bled him in the recumbent posture, "until he saw stars ;" he then gave a powerful emetic, followed by mercury to salivation ; at which stage of the treatment *Dr. O'R.* saw him, and continued to see him, until December 24, when he died.

Dr. Metcalfe remarked that this was a case of unusual interest, on account of the very many adhesions with surrounding organs, and that he did not recollect the record of any case where there was so much destruction of the walls of the stomach. *Dr. M.* found minute,

elongated cells, a very large quantity of oil globules and cells, with large nuclei in the morbid growth.

Dr. Clark asked if the dissection had been so much that they could be sure the pancreas was really the seat of the disease, as this organ was very seldom found diseased, but that disease often manifested itself in the areolar tissue, displacing organs which of themselves are free from disease.

Dr. Batchelder remarked he had repeatedly observed pulsation in abdominal tumors disappearing, and would like to know the cause ; he thinks them generally of a malignant character.

PART IV.—CHRONICLE OF MEDICAL PROGRESS.

Use of the Microscope in the Diagnosis of Cancer.

In a recent number of the *Gazette des Honitaur*, we find the following sensible view taken of the use of the microscope in cancerous diagnosis. C.

What are the microscopic characters which have been assigned to cancer? Without entering into the details of microscopic anatomy, we shall content ourselves with indicating the principal results that have been received. A cancerous cell or globule is found, enclosing cellular contents, and one or more nuclei, in which nucleoli are found ; but the form of this cancerous globule is far from being constant ; being rounded, oval, spherical, often irregular and presenting prolongations, which have been designated under the name of horns, and which themselves enclose numerous nuclei of cancerous globules. Sometimes, even, the cancerous cell is wanting, and there are only nuclei enclosing nucleoli : such is the nucleolated cancer. Such are the characters which have been assigned to tumors designated under the names of scirrhus and encephaloid. But are these the only cancers? No ; for there are other tumors, which, like the two last, have the melancholy privilege of recurring, either on the spot, or in the entire economy : such are the tumors which have been designated under the names of fibro-plastics, of caneroids, and of epithelial tumors. These are not true cancers, for elements of another nature have been found in them. In the fibro-plastic tumor are found fusiform globules, lengthened at their extremities, and terminating in true

fibres. In epithelial tumors are found cells of which the structure is similar to that of the epidermis or of the epithelium of mucous membrane. Besides these, there are the enchondroma and the melanotic tumors, which also often re-appear with great rapidity, and in which are found elements differing from those just mentioned. Here, then, we have a certain number of tumors, which have all one of the most important clinical characters of cancer, that is to say, which recur, and in which, nevertheless, we do not find the true elements of cancer, that is to say, the cancer cells.

The principal objections, therefore, made to the microscope are, that in the cancer are found cells extremely variable in form, and not always presenting a character of indenting; that homœomorphic characters are found in other tumors; and that these tumors sometimes re-appear with as much rapidity and as fatally as true cancer. To these objections the microscopists reply by observing, that no matter what may be the anatomical element of tumors, they have, when they re-appear, their primitive characters; and although some exceptions seem to contradict this theory, we are of opinion that the microscope has been eminently useful in enabling us to make a more accurate anatomical description of such tumors than would have been otherwise possible. In fact, it has indicated their place in nosological classification. But, it may be asked if clinical observation justifies the classification of tumors, as made by the microscope? Yes, in a great number of cases. In fact, every surgeon has had opportunities of verifying that the march of canceroids is very different from that of scirrhus and encephaloid cancers. True, it matters not which of these tumors it is, the patient always ends by succumbing; but it is to be remarked, that the march of the disease is far from being the same. Of course, there are points of identity, since these diseases were for a long time confounded. The same remark may be made of fibro-plastic tumors, which re-appear on the same spot or in some other part of the economy, but which often present symptoms of a peculiar character.

Another much more serious objection which has been made to the micrographic examination of epithelial and fibro-plastic tumors, is that they are composed of elements which exist as well in the economy. Thus, in the indurated chancre, and in the tissues indurated by inflammation, are found fibro-plastic elements, and yet these latter affections have a march which is entirely their own. They do not recur. In warts and syphilitic vegetations, epithelial cells are met with. True, warts recur, as do also vegetations, but this is the one

point of contact they have with caneroids ; for what can be more dissimilar than those benignant alterations and an affection which almost always kills ? And it is impossible for the microscope to indicate which of these fibro-plastic and epithelial affections are susceptible of infecting the economy.

We think, therefore, that instead of merely describing cancerous tumors characterized by a cell of a particular form, there is room for admitting many species of cancer—the fibro-plastic cancer, the epithelial cancer, the encephaloid cancer, the scirrhus cancer, and the melanotic cancer. Each of these species of the same genus would have a generic character, that is to say, its re-appearance, and would have, for specific character, the anatomical element established by the microscope. Possibly, the microscope may discover a generic character in the different tumors first enumerated, but it is certainly not the cancerous cell which should be taken as the point of departure ; since it does not exist in a certain number of tumors, which are very properly designated under the name of cancer.

Other objections, which have been made to microscopic observations, appear to us of no great force. Thus, it has happened, that where one micrograph has established the existence of the cancerous cell, another has not found it. But it may be remarked, that one or more errors on the part of an observer, should not be imputed to the method itself ; there are so many causes of error in an instrument requiring such delicate management, that a slight turn of the screw is sufficient to change the whole aspect of the tissues. Besides, in doubtful cases, how often do we see two practitioners of equal skill differ in their diagnosis ? In such cases, one at least must be wrong, and yet the science of the other may justly remain indisputable.

In the actual state of things, we cannot accept all that the microscope asserts ; but we must say, that it has already rendered great services, and we do not doubt, that it will continue to do so. It is open to the reproach of having advanced too far, and of having too readily disregarded clinical observation, although it was there it found the facts which it has used to establish its doctrines. We must add, however, that more recently the attentive examination of facts has enabled it to adopt conclusions more in harmony with the actual development of disease.

Use of Chloroform in Surgery. By Mr. ERICHSEN, F. R. C. S., Surgeon to University College Hospital.

I would wish at present to say a few words as to the mode of administering chloroform. This is a thing which every one should learn, for I am satisfied a very great deal depends on it. You may give your patient an over-dose of chloroform when you least expect it, and an over-dose in some patients will be another word for death. And first, as to the relative value or safety of inhalers or the advantage of a common piece of lint or oiled silk. I do not think this signifies very much, the chief advantage of the tubular inhaler I here show you is, that you know the quantity used, which should always be measured, while when you use lint there is more or less wasted. Yet I think this is counterbalanced in the use of lint, by the gradual and safe mode in which you bring your patient under chloroform, while in the instrument or apparatus it may be that the vapor is too concentrated. You will find a great deal written, from time to time, on this point ; it is, after all, not one of much moment, and as you may be obliged to use chloroform where there is no apparatus, a preference may be given to the lint. You pour a drachm of chloroform over a piece of lint, the size of the hand, do not over-saturate it, place this over the patient's nose and mouth, and then throw a towel loosely over your hand while applying it. You may find it necessary now to replenish the chloroform after a little, as the lint gets dry, and here I would impress on you the necessity of remembering the second quantity is much more dangerous than the first, the patient, for what you may see to the contrary, may be on the verge of a precipice in the balance between life and death. The great point to be attended to is, *watch the pulse*, as when danger threatens, it becomes perceptibly feeble and smaller. The effect of chloroform on the heart is peculiar; at first it quickens the pulse, indeed the general effects on the brain and nervous system at first, so intimately connected with the heart, is one of excitement ; you see the patient pull and drag as if drunk. You see this every week at operations. The chloroform now, in fact, has been absorbed and has got into the system, to this state rapidly succeeds the full anæsthetic effect ; there is partial paralysis also of the respiratory muscles, the respirations are less frequent, the pulse slower, and a very peculiar appearance of the eyes. I am led to believe in this state, under the action of chloroform, our patient is on the "verge of death," and requires our most serious attention ; we must in particular be guarded by not giving an over-dose (indeed,

Professor Murphy would rather err on the side of safety and operate before sensibility is entirely abolished). Patients may be kept a long time under the influence of chloroform, in fact for hours, by intermitting its exhibition for a short time and then applying it again. We now come to a most interesting and most practical point—namely, the mode in which death takes place, for after all this is a point we cannot too seriously study. Our experience of deaths from chloroform is necessarily limited, but the two chief modes by which this fatal result is brought about are—asphyxia or syncope; the former is not so common as the latter, but chloroform, it is quite possible, may thus kill by simply excluding atmospheric air, as if a patient, in fact, were inhaling nitrogen. This remark is more applicable as putting us on our guard not to give chloroform in a too concentrated shape. We most undoubtedly interfere with healthy respiration during the inhaling of chloroform, but this is different from entire suspension of the process; we have, in fact, two modes of death, as so well described by Bichât. This asphyxia, as if poisoned by carbonic acid or nitrogen, and again syncope, from the heart's action stopping. We had a sad instance here lately of observing a case of this kind, which was at once a matter of very serious anxiety, you recollect, to all of us, as well as a case from which you may have learned a great deal. I dwell particularly on it, as it is a thing happily not often seen, and the less frequently the better; it is a case, which in private practice may come on you like a thunder clap, and there is no cleverness or ability in disregarding human life. Our art of surgery is all intended to *save* and prolong human life, but if in the moment of doing so we do the opposite, it will be looked on by the public very unfavorably. We should consider it serious bungling to do anything else awkward, and cause death by opening a large artery for instance. Let us, then, give all our attention to obviate the accident of death from chloroform. This man we speak of had fatty heart, but nobody could have suspected it, and I must also tell you that it is a species of disease very difficult to make out; you will remember his respiratory muscles stopped, he gasped, and in spite of everything we tried, he was beyond recovery. This is so serious a matter that students can scarcely realize it; a whole family may thus be thrown on the world, and very great mischief done. Experiments have been tried on the lower animals; you may lay open the thorax, and watch the heart beating, but it will be as suddenly stopped by an *over-dose* of chloroform as by any over-dose of the most powerful poison; the muscles of the heart will not respond either to the action of galvanism; when we have

this impending death from syncope, as I said before, you will find the pulse sink. This is the starting point, so to speak, of a set of fatal symptoms which soon follow, including stoppage of the beatings of the heart, impeded action of the lungs, &c.

The next point that offers itself to our notice is one also of very great interest—namely, whether nervous depression should prevent or contra-indicate the use of chloroform, it is one at present very much discussed; whether, in a word, we should use chloroform during the shock of a severe injury, as in a gunshot wound. We should not make this a question of this or that school (Edinburg, or Constantinople, or London) but learn what is the truth. I believe chloroform may be safely used during nervous shock from gunshot wound, as we use it in hysteria or the shock of delirium tremens; nay more, I rather think it acts beneficially, I think it rather lessens “shock after operation.” We cannot of course use too much caution or care when the constitution has received a serious injury, but I should not be at all inclined to deny a patient chloroform on that account alone; pain is a much more horrible shock and depressor of the nervous system than chloroform, pain of a knife is not at all a stimulant. There is another form of disease, as in that man we operated on last for varicose veins which I think contra-indicates chloroform much more than “shock of an injury.” I allude to old bronchitis. Where we have a man with one lung, or a lung and a half, I am very chary of using chloroform; take care of those cases of men with chronic cough and feeble pulse. I fear I cannot say much on fatty heart, it is a very obscure affection, we know it by the usual phrase—the “heart is weak;” it is an affection, as I have also said, not easy to diagnose; we can easily make out valvular disease of course, but the signs of fatty heart are rather negative than positive.

Fatty heart, it must be remembered, is a disease which often kills by itself. A man drops down dead in the street, possibly, at some little mental emotion—an omnibus, or something of the kind, runs against him; he has had fatty heart. It is now a question whether the mere apprehension of an operation may assist as a cause of death. Chloroform should be used with caution at the extreme periods of life. In children I think it advisable to dilute the chloroform with equal parts of spirits of wine; perhaps in very old people also it would be not undesirable to do the same; we thus, perhaps, ensure a good mixture of atmospheric air, and prevent the chloroform being too concentrated. Now, as to *treatment* of those apparently dying

from the effects of chloroform, I have very little to say. Artificial respiration is the chief and primary object ; the surgeon has not a moment to spare ; and his own breath will be best. I would pull out the tongue, and thus throw up the opening of the larynx ; I have seen this effectual in two or three instances. The next most valuable agent will be galvanism, a sharp shock through the region of the heart ; if any contractility happen to be left this will restore the circulation ; rubbing brandy to the palate and top of the larynx may also do good by exciting any reflex movements not permanently extinguished.—*Medical Circular.*

The Influence of Fear in Producing Functional Derangements.

By JOHN B. COWAN, M. D.

THE powerful influence exercised by mental emotions on the condition of the human frame has long been recognized. Under their influence the flow of saliva may be checked, that of urine may be increased, tears may be produced in inordinate quantities, diarrhœa, or copious perspiration, may be brought on. But although these facts have been clearly ascertained, it is difficult, if not impossible, to trace the definite connection betwixt the physical organization and the mental manifestations, in virtue of which these effects follow.

The prevalence of a fatal and wide-spread epidemic affords, however, an admirable opportunity of observing the influence of one mental emotion—FEAR—in producing, or assisting to produce, certain morbid states of the system. Many writers, both on metaphysics and on medicine, have alluded to the symptoms of bodily and mental derangement caused by fear.

Burton, in his "Anatomy of Melancholy," says—"Many lamentable effects this fear causeth in man, as to be red, pale, tremble, sweat ; it makes sudden cold and heat to come over the body, palpitation of the heart, syncope, &c. It causeth oftentimes sudden madness, and almost all manner of diseases." And again, after narrating the effects of terror which followed the massacre at Lyons in 1572, he adduces the instance of "Themison the physician, who fell into an hydrophobia by seeing one sick of that disease." In another part of his work he makes the following very apposite observation :—"Men, if they see but another man tremble, giddy, or sick of some fearful disease, their apprehension and fear is so strong in this kind, that they will have the same disease ;" and, quoting from Dr. Cotta, nar-

rates two stories, "the one of a parson's wife in Northamptonshire, anno 1607, that, coming to a physician, and told by him that she was troubled with the sciatica, as he conjectured (a disease she was free from), the same night, after her return, upon his words, fell into a grievous fit of a sciatica; and such another example he hath of another good wife that was so troubled with the cramp; after the same manner she came by it, because her physician did but name it." These, however, are rather instances of the force of imagination acting upon weak minds, than of disease caused by fear.

Dr. Darwin in his great work on the "Laws of Organic Life," treats of the diseases of association, under which he classes those produced by fear. His theories on this, as on other points, deserve attentive consideration, as the results of the studies of an acute observer and original thinker. He accounts for the increased flow of pale urine in hysteric diseases, by supposing that "the motions of the absorbent vessels of the neck of the bladder become inverted by their consent with those of the skin, which are become torpid by their reverse sympathy with the painful ideas of fear." The same effect may follow from anxiety, where there is little fear; as an instance of which, the frequency with which young men about to be examined for a degree pass urine is cited. His theory of *Diarrhœa a timore* may be quoted entire:—"The absorbent vessels of the intestines invert their motions by direct consent with the skin; hence many liquid stools, as well as much pale urine, are liable to accompany continued fear, along with coldness of the skin. The immediate cause of this is the decreased sensorial power of association, which intervenes between the actions of the absorbents of the cold skin, and those of the intestinal absorbents; the motions of the latter become on that account weakened, and at length retrograde. The remote cause is the torpor of the vessels of the skin, catenated (in plain English linked) with the pain of fear. The capillaries of the skin consent more generally by direct sympathy with those of the lower intestines and of the bladder; but by reverse sympathy more generally with those of the stomach and upper intestines. As appears in fevers, where the hot skin accompanies indigestion of the stomach; and in diarrhœas attended with cold extremities. The remote cause is the torpor of the skin, owing to its reverse sympathy with the painful sensual motions, or ideas, of fear; which are now actuated with great energy, so as to deprive the second link of associated motions of their due share of sensorial power. It is also probable, that the pain of fear itself may

contribute to exhaust the sensorial power, even when it produces no muscular action."

Dr. Holland, in his "Medical Notes and Reflections," devotes a chapter to the effects of mental attention on bodily organs. He shows that direct effects follow from consciousness being, by a distinct voluntary effort, directed towards organs or parts of the body. Of the force of this statement every one must be easily convinced. Among other instances, the state and action of the bowels is alluded to as thus influenced. The attention being concentrated on them, sensations previously unnoticed are experienced, and their action excited and quickened. But this, after all, amounts to a species of fear. If not actually commencing, as it is most likely to do, from apprehension or dread, caused perhaps by some reference to that part of the system, the consciousness, unless kept concentrated by fear, is not likely to continue long directed towards it; or the consciousness will degenerate into fear. Feuchtersleben, in his work, "Medical Psychology," says:—"Fear causes especially enuresis, diarrhœa, seminal discharges, erysipelas, and eruptions about the lips; facilitates the reception of contagion and miasma, disturbs crises, and aggravates every disorder." After enumerating instances of actual organic lesions produced by the evidence of this emotion, and instancing its well-known effect in causing jaundice, he adds: "Here we ought to go further, and pass on to the psychical causes which act on the nervous principle; but the quality of these by no means explains their mode of action. Fear and horror act, moreover, variously, either exciting or paralyzing, according to the greatness of the danger, and according to the individuality of the persons affected by them."

There cannot be the slightest doubt that the presence of Asiatic cholera causes in a community, and in individuals, a dread and a terror, which is not exhibited in anything like the same extent during the prevalence of other epidemics scarcely less fatal. The reasons why cholera should excite such powerful emotions are sufficiently obvious. As yet it may be regarded, in this country at least, as a disease of comparatively modern origin. Its exciting abuses appear as inscrutable, as its removal seems beyond the reach of sanitary measures, or the best applied efforts of medical art. Its very suddenness is appalling, so that we have all the elements to keep alive and foster fear. Fear seems to produce, during an epidemic of cholera, no well-marked effects upon those who are under its influence. The one of these, as might be anticipated, is a species of hysteria, so character-

istic that it might be designated by the terms choleraic hysteria ; the other is actual diarrhœa or vomiting.

The hysterical symptoms are most frequently met with in females, but the writer has seen one case in the male which appears to him interesting. On the 26th of December last year, shortly after cholera made its appearance in Glasgow, he was called late at night to see a young man of moderately robust make, and whose employment was that of a groom. His habits were remarkably temperate, and in every respect he was a steady and good servant. He was found walking up and down his room in a very excited state, occasionally applying his hands to his abdomen, and seemingly disposed to vomit. On inquiry, it was ascertained that he had no symptoms of diarrhœa or vomiting, but he declared that he felt, that if he lay down in bed he would immediately purge and be sick. Persuasion was utterly useless, and so was abuse or ridicule. His master lent assistance to strip him by force ; he was compelled to lie in bed, and a strong opiate was administered, under the effects of which he was soon in a profound sleep. He awoke quite well on the following morning, but still labouring under mental agitation, and declared that he had felt convinced the previous night he was dying of cholera. This man seems afterwards to have quite overcome his fear as regards cholera, having watched for a considerable time by the deathbed of a fellow-servant who had been attacked by that disease.

The following instance was related to me by a medical friend :— One evening lately I visited two young ladies, between 20 and 30 years of age, in whose house a relative had died of cholera the previous week. Since then they had been affected with the most overpowering fear of the disease ; they would not eat for fear of inducing vomiting, and felt persuaded that they were both about to take cholera. They felt sick, and had an uneasy sensation over the epigastrium, and though neither of them had previously had any hysterical or nervous affectations, they now frequently fainted, felt alternately hot and cold, and had occasional shiverings. They refused to lie down for fear they should become sick, and scarcely slept at all at night. They had taken no nourishment for four days, except little bits of biscuit, and a mouthful of cold water with some aromatic substance in it, and they could hardly be persuaded to swallow a little wine and water. They had not vomited at all, and they had resisted the inclination, and succeeded in preventing any passage from their bowels for six days, under the delusion that it was the safest way to prevent

diarrhœa. They were constantly moving about to assure themselves that they were still unattacked, and as night drew on they felt perfectly miserable at the thought of requiring to retire to bed. Altogether, I never witnessed such a lamentable example of the effects of fear. I persuaded them to take some tea and toast, a little negus on going to bed, and ordered a laxative pill to both, assuring them that the nourishment would strengthen them, and that they might expect to be better in the morning. They slept pretty well, and in the morning felt more composed, principally I presume from the assurance I had given them that they would be better. The pills operated mildly, and had the effect of relieving some of the uneasy sensations. They still disliked the idea of taking solid food, but gave in when I insisted on their doing so, as well as taking some wine several times. Having once overcome the fear of taking food, they soon regained their strength.

Dr. Steven has detailed to me a more interesting case, that of a man whose dread of thunder was such, that during a thunder-storm he had invariably an attack of diarrhœa. During the epidemic of cholera in 1849, this person resided in Hamilton, and when the disease appeared in that town he kept himself closely secluded in his house, never venturing out. Towards the close of the epidemic, on a day during which he had heard there had been no fresh case of cholera, he went out, and Dr. Steven had some conversation with him. He was attacked by cholera, and died on the following morning; and his was the last fatal case but one which occurred. It seems apparent that this man felt himself secure so long as he lived secluded, and probably it was to that feeling of security being destroyed, and agitation perhaps induced by conversing on what to him was an all-absorbing topic, that the seizure was in some degree to be attributed. Similar examples might be multiplied, but those narrated are sufficient to indicate the character of a class of cases which all medical men will recognize as having been of frequent occurrence during the last few months.

To such an extent has the fear of cholera existed, that it has led to the commission or omission of acts discreditable in the highest degree to those concerned. We learn from the public press that one unfortunate man was left to die on a public quay; and this is by no means a singular case of desertion of duty. Husbands have been known to desert their wives, parents their children, and children their parents; while the relatives of those who die of the complaint, hasten

to bury them within a few hours of their decease. No wonder that the disease should spread in every locality while such a panic continues to prevail.

A fear of the existence of the disease has often been produced by the too indiscriminate employment of opium and other astringent medicines. A loose evacuation called for brandy and laudanum. These were taken, the stomach became deranged, vomiting perhaps occurred, and even cramps, real or imaginary. The medical practitioner was hurriedly summoned to a case of cholera, and from the excitement and vague statements of the patient and attendants, would find it extremely difficult to discover the real state of matters. Or, again, a person has been constipated for some days, takes before retiring to rest some laxative medicines, which, beginning to operate, causes alarm. Opium is resorted to, and the antagonistic action set up soon produces general disorder of the system, increased by mental perturbation not easily allayed.

Although, however, fear undoubtedly produces such derangements as those briefly touched upon, as well as others to which no allusion has been made, it is obviously impossible to trace either its direct influence or to assign to it its due share in causing these effects. But believing, as all practitioners must do, that the violence of this mental emotion predisposes to, if it does not actually directly produce cholera, it is a point, we apprehend, well worthy of consideration, whether no means exist by which it can to some extent be controlled. Every effort should undoubtedly be tried to put an end to cholera being made a constant theme of conversation during its prevalence, and to discourage the practice which has become so common, and is so fraught with injury and danger, of making the public press the vehicle for discussing its various phases and modes of treatment. Any one who has glanced at the *Times* newspaper, for many months passed, must have been struck with the innumerable infallible modes of curing cholera which have been promulgated through its columns, equally unworthy of regard, whether emanating from "eastern travellers" or "hospital physicians." The last and most notable instance of this was the publicity given to a plan of treatment by no means new, which it was stated had been adopted with success in some dozen cases, and which received the approving fiat of the great organ of public opinion.

But while some slight degree of good may result from attempting to check the tendency of the public mind to dwell upon such an

alarming subject, the true source of all this pusillanimous dread lies much deeper, and cannot, we fear, be reached. It is the result of an educational system conducted upon erroneous principles, and the errors and defects of which, more especially as regards the female sex, have frequently been pointed out, and by none more forcibly than by Barlow, who has in a very striking manner shown the fruits of misdirected early training in producing insanity. To the same identical causes—the want of self-control, of moral courage, and, in the case of females of the higher classes, of interesting occupation and active exercise of the mental powers—may be traced the existence and frequency of a fear during epidemics, which is demoralizing in its effect upon a community, and is actually fraught with danger not only to those who indulge in or foster it, but to the public at large, by its undoubted tendency to increase the prevalence and fatality of the epidemic. It is earnestly to be hoped that any future outbreak of cholera may be distinguished by the entire absence of such cases as those shortly related, and may not be aggravated by the violence of such a depressing mental emotion as fear.—*Glasgow Journal*.

Aphorism of Hippocrates.

“Vita brevis, ars longa, occasio praeceps, experientia fallax, judicium difficile”
—Life is short, art long, occasion brief, experience fallacious, judgment difficult.

Such is the language of Hippocrates, the Father of Medicine, in his Aphorism, No. 1. Uttered nearly four hundred years before the Christian Era, it comes down to us, not only clothed with the authority of a great name, but, what is still more, containing truths that are as imperishable as the author's name in the commonwealth of medical science. Each sentence in the Aphorism embodies enough of truth for a volume. We have no time to even comment upon any of them, much less all. The last, “*Judgment is difficult*,” we shall, however, take to serve as the basis for one or two remarks.

In the practice of medicine nothing is perhaps more frequently or more painfully realized than the truth of the remark, “*Judgment is difficult*.” A body composed of some twenty or more *inorganic* elements, and some ten or twelve *organic*, arranged together in the forms of cells of the most delicate structure, tissues of the most complicated character, and organs of greatly diversified functions, all of which being under the influence of, and subject to, the play of the

forces known as those of gravitation, cohesion, chemical attraction, and these again modified and controlled by that mysterious one known as the "*force of vitality*," must give rise, whether in health or disease, to phenomena that, to the individual whose mission it is to repair, make "judgment difficult." Into this complicated mass of matter, often, an invisible, intangible, imponderable, inappreciable agent is introduced, which disturbs the harmonious and delicate relations, to the presence of which we apply the term *health*. What now more difficult than to understand a derangement in matter thus complicated? If our vocation was merely that of an artist, it might do when something gets wrong to say, with the mechanic, that a "screw is somewhere loose," or "that a wedge has dropped out of its place." This, however, might not answer the purpose, even taken in a figurative sense. One of the little cells floating in the life-current has likely come to a place where it has been accustomed to pass, and has been denied admittance—has had to tarry, to lay over for a few days; or perhaps it has met the insidious enemy at a point where it was unexpected, and been robbed of some of its organic or inorganic elements. Again, perhaps there has been "*a solution of continuity*" in some of the fibres of the tissues in the deep-seated parts of the body. Or, perhaps the foreign agent has come in contact with an organ, imparting to it unnatural activity, or what is just as likely, it has disarmed the organ of the ability to act at all. Now how is all this—and this is but a meagre specimen—to be ciphered out? Certainly, in attempting it we are reminded of the saying of the distinguished personage to whom we have alluded—"Judgment is difficult."

Because we are unable always to be perfect in making out the exact character of the derangement, and, as a consequence, are unable to apply the proper remedy, we are upbraided often with the exclamation: "Oh, the glorious uncertainty of medical science!" "Doctors can do nothing more than divert the attention of the patient, while nature cures the disease," etc., etc. But few stop to think of the difficulties we have to encounter in many cases, and the impenetrable mysteries that surround others. Our profession is to attempt the cure; and, although we may succeed ninety and nine times in the one hundred, still a failure in the other case is often a sufficient cause of reproach! "Why not cure all?" is the unreasonable inquiry. It would not be a sufficient offset to such demands to say that the moralist cannot cure all disposed to be vicious and corrupt; or that the lawyer cannot gain all his cases in court; or that

the mechanic cannot mend all the broken machines ; or that the chemist cannot analyze all the substances supposed to be compound ; or that the astronomer cannot always predict the appearance of the comet ; or that the geologist cannot come within a thousand years of the age of the world ; or that the mathematician does not yet fully understand the capacity of the nine digits ; or that the philologist is in the infancy of his knowledge concerning the power of letters ; or that, in short, we are yet but upon the threshold of all science, imperfect in all our efforts, it matters little what is up for investigation—such replies, we repeat, would in no way extenuate, in the estimation of the many, our imagined imperfections. Such being the case, what course is left for us to pursue ? Are we to sit down and pare our finger-nails, in order to kill time, mourning over the want in the public mind of qualities it ought to possess, or make renewed efforts to confer a greater degree of certainty on every thing connected with our vocation ? Are we to sit down and abandon the interests of our profession to the results of chance, because preachers, lawyers, poets, etc., etc., are found mustering with the quacks and charlatans of the day ? The profession, we think, would universally give to such inquiries a negative response. In looking over the record, we find that we have made progress in every age, and in none more than the present. The truth is, however, that we have in charge the most difficult science, or, rather, series of sciences, with which our race has had any thing to do ; and this fact, if properly appreciated by the great mass of our profession, would work out salutary results. It would stimulate to increased exertion. There is scarcely an individual but what might double the amount of labor he is performing, to make himself and others acquainted with the fields yet unexplored. This applies eminently to the young men scattered over the country, many of whom are in regions that abound in facts, which, if carefully collected and arranged, would perhaps untie a knot that has bothered all the men in the profession from Hippocrates to the present day. Indeed, there is no locality where disease occurs, but what contains much that would be useful, if rightly observed and recorded. The chemists are at work in the laboratory, and they are making developments that give increased certainty to our science ; the pathological anatomists are at their posts, examining the tracks of disease on the organism, and why should not medical men, engaged in the practical parts of the profession, be equally industrious in their observations ? The departments of the last are Etiology and Therapeutics—subjects

in much need of investigation. If, therefore, all would labor, the time may yet come when we would not feel so pungently the force and truth of the sentence, "judgment is difficult."—*Ohio Med. and Surg. Journal*.

Suit for Mal-practice.

The case of *Thomas Rice v. Wm. H. Thorndike*, which has been on trial in the supreme judicial court of this city, has excited much interest amongst surgeons and the members of the medical profession. The plaintiff declared that in March, 1853, while hewing with a broad-axe, in McKay's ship-yard, at East Boston, he inflicted a wound upon the great toe of his left foot ; that the defendant, Dr. Thorndike, was employed as a surgeon to take care of and cure the same ; that the defendant unskillfully and negligently attended to it ; that he amputated the same without the plaintiff's permission or consent, and thereby the plaintiff suffered great pain, was obliged to expend large sums of money to get cured, and was made lame for life. For all which the plaintiff claimed damages to the amount of five thousand dollars.

The defendant answered that, in the discharge of his professional duty, he did attend upon the plaintiff in a careful and skillful and proper manner from the 4th to the 25th of March, 1853 ; that, in the course of said treatment, it became essential and necessary, in his best judgment, to amputate the toe ; that, before amputation, he stated his reasons in full to the plaintiff, and was in turn requested by the plaintiff to take that course which, in his judgment, was best ; that he accordingly performed the amputation, and, in its performance, exercised his utmost care and his best surgical skill. On these issues the case went to the jury. The plaintiff put in a large amount of evidence as to the nature of the wound and the damage suffered. By the deposition of John McDonald, one of the plaintiff's witnesses, it appeared that the plaintiff requested the doctor to do up his toe in the blood as it was, and not to amputate. Evidence was also put in that certain toe bones, represented to be those of the plaintiff, were shown to certain doctors at Newburyport, who testified that, from the appearance of those bones, no amputation could have been necessary.

The defendant's counsel, in opening, offered to show that the defendant was thoroughly educated for his profession ; that he had

received the advantages of the best schools of the country, and of an intimate acquaintance with the most distinguished surgeons of the state ; that he was so eminent as a student in the department of surgery, that upon taking his degree at the medical college he received the appointment of house surgeon at the Massachusetts General Hospital ; that after leaving the hospital, and during his five years' residence in East Boston, he had performed between three and four hundred surgical operations, amongst them some of the most difficult and dangerous known in surgery, and in every instance with entire success. The plaintiff's counsel objected to the admission of evidence of this kind, admitting that the defendant was a skilful surgeon, that in the performance of the amputation he exercised proper skill and took charge of the patient with proper care, but alleging that amputation was unnecessary, and that it was performed without the patient's consent.

The defendant offered four witnesses to prove the nature and dimensions of the wounds, also the boot which the plaintiff wore at the time of the accident, and it was the unanimous opinion of all the surgeons summoned on both sides, that if the wound was as the defendant's witnesses described it to be, amputation was the only proper mode of treatment.

The defendant also put in the testimony of three of the four persons present at the amputation, including the plaintiff's nurse, the person with whom the plaintiff boarded, and another lady who assisted, that though the plaintiff at first wanted his toe done up in the blood as it was, yet, that after the doctor had explained to him the consequences, he told the doctor to use his own judgment and do what he thought for the best ; that the plaintiff was sensible during the amputation, and looked at his toe several times, and made no remonstrance whatever ; that the doctor, in his prior examination of the wound, as well as during the amputation, was calm, careful, and deliberate, and during all his subsequent attendance upon the plaintiff, treated him with the greatest consideration and care ; that the wound under his treatment did well and healed rapidly, and was entirely healed but one small place, when the plaintiff went to Newburyport, and discharged the defendant.

In this case Richard H. Dana and G. E. Betton appeared as counsel for the plaintiff. Wm. Whiting and George T. Angell for the defendant. The jury, after being out about twenty minutes, came in with a verdict for the defendant ; and the following resolution, with

the signatures of the jury attached, was handed by the foreman to the defendant :—

Resolved—That, in the opinion of this jury, Dr. Thorndike exercised the best skill and judgment in the surgical operation in question, and that he is entitled to the entire confidence of the community in the practice of his profession as a surgeon and physician. [Signed by the Jury.]

The following letter has been received by the defendant from the plaintiff's counsel :—

Court street, Jan. 13, 1855.

Dr. Wm. H. Thorndike :

Dear Sir—As the cause which has just been tried involves professional reputation, we think it due to you to say that, on a full consideration of evidence produced by you, and the weight due to the testimony of your medical brethren, we are satisfied with the justness of the verdict.

At the same time, as some question was made on that point at the trial, we feel bound to add that we have not the least doubt that our client, Mr. Rice, has acted throughout from honest motives and in entire good faith, and in reliance upon medical advice.

Your obedient servants,

RICHARD H. DANA,
GEO. E. BETTON.

WM. H. THORNDIKE, M. D.

—*Boston Post.*

On Fissures of the Nipple during Lactation.

Nurses are frequently affected with fissures on and about the nipple. Nothing can be more painful than nursing under these circumstances, and frequently it is necessary to discontinue it, at least on one side. M. Bourdel, Assistant Professor of the Medical Faculty of Montpellier, says he has used for ten years a method which he has never seen to fail when the fissures were not due to a constitutional cause, whether syphilitic or other.

The substance used is the tincture of benzoin, which is applied by means of a fine badger's hair pencil to the cracked or ulcerated surface, so as completely to cover them with this liquid. Only the first application is painful, and this is characterized by a smarting proportioned to the depth of the ulcerations, and does not continue more than a quarter of an hour.

The tincture of benzoin forms a kind of covering on the surface of the nipple, which protects it, and the child takes the breast without

any repugnance, even when the tincture is not dry. This covering, when hardened, defends the ulcer from contact with the air, and the garments, and dispenses with lotions, which are not well borne. Lactation is not interrupted, for it ceases to be painful. Cicatrization takes place at the end of some days. The treatment is never prolonged beyond twelve days.—*Gaz. des Hopitame*, Oct. 12, 1854.

PART V.—HOSPITAL RECORDS.

(Crowded out by a press of matter.)

PART VI.—EDITORIAL AND MISCELLANEOUS.

THE HEALTH OFFICE.—It grieves us to learn how many excellent physicians in this city, and elsewhere in the State, are fretting their quiet souls, neglecting their large fields of practice, spending precious time, pouring out money like water in traveling to and fro, and boarding at the Delavan House, drumming up extensive lots of friends, moving heaven (through the signatures of the Clergy) and earth (through the merchant princes, and men of high professional standing), to induce Governor Clark to bestow upon them the responsibilities, risks, and \$30,000 salary reputed profits which pertain to the Health Office of this port. It grieves us, we say, knowing that but one of the several scores who join in the race can possibly win the goal. Several gentlemen of distinguished ability to fill the post have, earlier or later, been named as applicants for it. This is not to be wondered at, since the temptation is so great. But we might as well remark here that the money-value of the office has been over-rated. In the repeated amendments to the laws regulating the Health Officer's duties, and concerning the Marine Physician at Staten Island, several thousands have been clipped from the former amount that a man might honorably make of it. Then, "the party" that gives so fat an appointment, cannot be expected to give it without "a consideration." Five thousand dollars *per annum* probably is not an extravagant sum to be deducted for the party-tax. Then, in an emergency, the Health Officer must expect to be

called on to foot the bills of the State Central Committee. These, added to the fact that the Officer's establishment is "one of the institutions," and his house open at all times to his troops of friends, should all be calculated by aspirants who are so eager to try the roughness of their physical systems, and to do battle with ship-fever, cholera, yellow-fever, untimely hours, driving nor'-Easters, a grumbling mercantile community that is "down upon him" for every ship detained at Quarantine, and an Argus-eyed press that gloats in racking him for every suspicious vessel that he allows to come up to port.

Most who have applied, on discovering their ill-success, are allowed to return to their professional occupations without any long chapters being added to their personal histories through the newspaper controversies. Our friend Dr. Charles A. Lee is not so fortunate; his petition was signed by the President, four Ex-Presidents, the Executive Committee, Treasurer, Auditor, and General Agents of the State Temperance Society; and in their preamble they say that they so sign "*on behalf of the Society which they represent.*" This statement brought down upon the Society several sharp Editorials from the politicians, who doubted whether the province of the State Temperance Society, unless in Convention, extends so far as to urge any candidate upon the Governor. It turns out, however, that these officers only signed for themselves individually, and like, we presume, the majority of excellent men arranged upon the Doctor's list of petitioners, held themselves at perfect liberty to sign also the next, and the next, and still the next good man's paper that should be presented; for the names of petitioners, it seems, are not taken as those of persons anxious for the appointment of the man named in the petition, but simply as a force upon which the Governor can fall back, if the one indicated should happen to be the lucky one upon whom gubernatorial favors are aching to descend.

EDWARD C. DELAVAN on the 24th wrote, that his Excellency had just before answered his inquiry "*in the most positive manner, that he was not in the remotest degree committed to any one*" for the office. This might encourage aspirants to try again; but Rumor is understood to say that any man else than Dr. Thompson of Albany "will have a good time getting it." Dr. T. we are not personally acquainted with; but this same Rumor gives him several weighty qualifications for the post. First, he is a Whig; second, he is somebody's brother-in-law; third, he is one of the "splitting Know Nothings"—one who split at Utica, and split at Schenectady, and is good for any amount of split-

ting that the party may require; fourth, he is a regular orthodox physician, in good standing, which (curious as it may seem) is held everywhere to be an essential element of success, and necessary to prevent the appointment from proving unpopular with the community. Rumor has a great many reporters out; and she oftener errs in learning too much than too little. In view of her assurances, however, we would venture to advise all who are not *very* sanguine of success, to save their breath for another race, and leave political offices to those who can afford to—accept them unsought. ††.

ITEMS OF MEDICAL NEWS.—The Ministers of Public Instruction (Paris) have raised the salaries of Professors of Medicine from 6,000 to 7,000 francs.

The friends of each are attempting to unite the two Universities of Aberdeen—King's College and University, and Marischal College and University. These are both very old institutions, one dating its foundation from 1500 A.D., the other from 1593 A.D. The Aberdeen University has a chair of medicine.

The *Medical Times* (London) for 1855 is to contain a course of Lectures on Diseases of the Brain, by Dr. R. B. Todd, and a course on Diseases of the Ear, by J. Toynbee. Dr. Stokes' Clinical Lectures on Fever, and Dr. Bence Jones' Lectures on *Materia Medica* are to be continued.

Dr. Charles Reclam of Leipzig, at a meeting of savans at Hohinglu (Sept., 1854), read a memoir "On the Life and Death of Nations," in which he traces epidemics to great moral and political disturbances, rather than to states of the air. For example, "The Reformation, with its executions, refusals of honorable burial, estrangement of old friends, and breaking up of families, was followed by the plagues of 1535 and 1538. The Thirty Years' War that devastated Leipzig, repeatedly brought on the plague which raged from 1630 to 1633, and swept off a third of the city's population. The subsequent tortures and extortions of the Swedes ended in an epidemic which hovered four years over the city, and swept away nearly half its inhabitants. The campaign of 1813 brought on the "war typhus," which spread over all Germany. The popular commotions of 1830 caused the cholera of 1831. The disturbances of 1847-8, the cholera of 1848-9; and the threat of a second European war prefaced the cholera of 1854.